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# American Vegetable Grower

FEBRUARY • 1959

and MARKET GROWERS JOURNAL

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STACK



Potatoes Spell Success  
for Idaho Grower

Assembly-Line Sweet Corn  
Harvesting in New York

Why Carrots Become Bitter

Vegetable Areas of America:  
GEORGIA

They Contract for Vegetables in Texas



*Keith Sharp (left) counts on Firestone representative George Grizzle for fast service.*

# "FIRESTONES STAND UP BEST TO TOUGH GRINDS!"

*says Keith Sharp, K.K. Sharp Farms, Holtville, California. "Our 2,000 acres range from medium loam to adobe. We buy Firestone tires 100% because their heavy-duty bodies stand up to the grind longer. They retread well, too. And George Grizzle, our Firestone representative in El Centro, gives us good service and immediate deliveries."*

Extensive tractor tire tests prove Firestones are built to give longer wear in the field or on the road! The two big reasons are Firestone S/F (Shock-Fortified) cord and Firestone Rubber-X. Firestone's tough S/F cord resists costly impact damage. Firestone Rubber-X, the longest wearing rubber ever used in Firestone tires, is specially compounded to give longer tread wear even in the worst soil conditions. The All Traction Champion\* tractor tire has a flat tread contour with tapered, deep-bite traction bars to deliver greater traction in any type soil. A special Firestone Rubber-X compound

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give you easier steering  
better cleaning • longer wear

\*FIRESTONE T.M.

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FEBRUARY, 1959

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# American Vegetable Grower

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Commercial Vegetable Grower  
Market Growers Journal

**VOL. 7**

**No. 2**

**FEBRUARY, 1959**



Cover photograph by John Jeter. Read how to prevent bitterness in carrots on page 38.

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**Made by the American  
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- Discharge head rotates 210° to take advantage of wind direction
- Twin jet agitation of spray materials

## new *John* **BEAN**<sup>®</sup> **MODEL 30-RC AIRCROP**

**Covers up to 165 acres per day**

Dramatic savings in time and labor, penetrating and uniform spray coverage throughout the swath, plus every other advantage of modern air spraying is yours with the new John Bean Model 30-RC complete Aircrop sprayer. You cover up to 165 acres per day at the rate of 20 to 24 acres per hour at 4 mph ground speed; apply dilute, semi-concentrate or concentrate materials. John Bean's scientifically designed air delivery gives gentle, even coverage to close-up rows and maintains full velocity at the top air discharge for effective coverage over a 60-ft. swath. One man operation is easier than ever with new, "Push-Button" engine and spray remote controls. To prevent crop damage, the Model 30-RC has a 27" ground clearance and adjustable, 68" to 84" tread width.

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1959 marks John Bean's 75th Diamond Jubilee Anniversary in serving agriculture's needs for faster and more effective control of crop diseases and insects through constant sprayer research and development.

John Bean engineering and research coupled with the facilities of one of America's largest corporations, the Food Machinery and Chemical Corporation, consistently produce the most complete line of high quality sprayers you can buy.

Every John Bean sprayer is backed by unequalled technical experience and manufacturing skill, is made right to do the job right, and is built to last longer.



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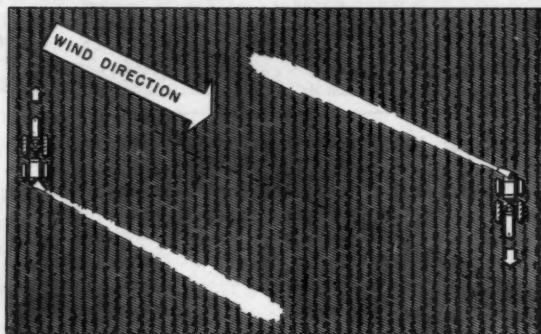
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# WIND WORKS FOR YOU —

when you spray with a *John* **BEAN**® AIRCROP



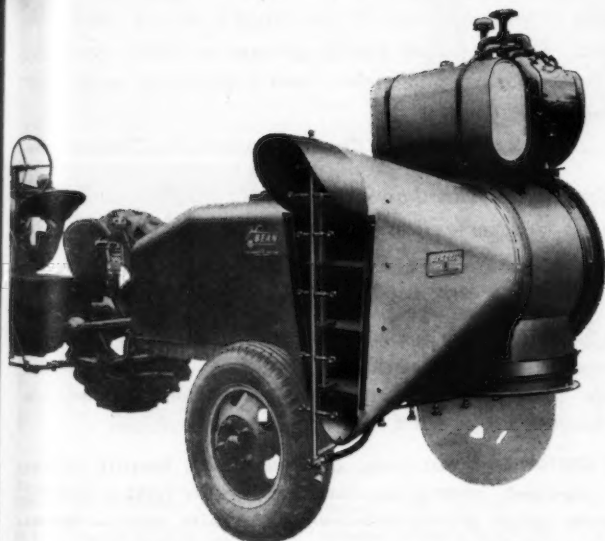
SWATH COVERED

## YOU TAKE ADVANTAGE OF WIND CONDITIONS

The discharge head can be rotated into the wind — or parallel with it — to assure maximum swath width at all times. With a John Bean Aircrop, you never have to wait for "perfect" wind conditions — you spray on time when coverage is needed — with fewer trips through your fields.

## Big capacity 15-RC Aircrop Attachment gives you all these important features:

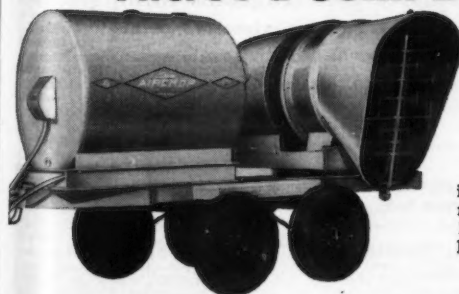
- Sprays 60 ft. swath — up to 75% fewer trips thru field
- Spray 24 acres per hour
- Easy-to-reach remote controls
- Sprayer head rotates 200° to spray from any position
- Gentle foliar agitation throughout entire swath width



## There's a John BEAN Aircrop for every grower

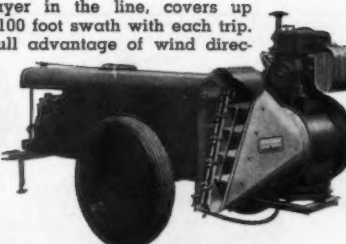
### For greatest rate-of-work capacity

The 40-RC, largest complete air sprayer in the line, covers up to 250 acres per day — sprays a 90 to 100 foot swath with each trip. Discharge head rotates 210° to take full advantage of wind direction.



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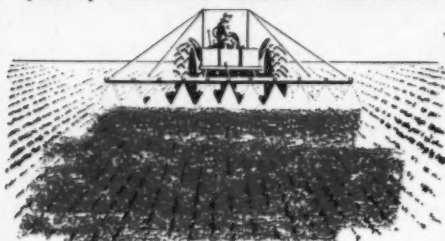
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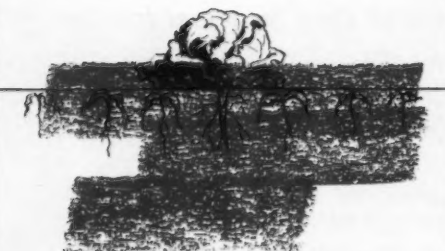
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## HOW VEGADEx SAVES UP TO \$100/ACRE ON HAND WEEDING



Spray Vegadex on the soil when you plant. It forms an invisible chemical "blanket" that covers your fields.



When weeds sprout, they touch the Vegadex "blanket" and die... but the crop grows through unharmed. (Vegadex won't build up in soil—you can spray it safely every time you plant.)



**RESULT:** Vegadex makes you more money 2 ways... 1. You get bigger yields, healthier crops. 2. You can save from \$20 to \$100 per acre on hand-weeding costs.\*

\*Proved by commercial growers in their own fields.

## Monsanto's "Red" Emm Reports:

# Leading vegetable growers reveal money making power of VEGADEx® weed-killing blanket!

*"Vegadex applied properly will save a celery grower at least \$100 an acre in hand-weeding labor costs. We used 2 quarts of Vegadex per acre in band treatments. Weed control was excellent with no crop damage."*

Gordin L. Gore, Mt. Dora, Florida

*"I lost several crops to weeds before I used Vegadex. Also, I was able to grow only one or two crops a season. But with Vegadex, I have grown turnip greens, mustard, spinach, snap beans, kale and collards... and I hope to grow at least four more next year."*

J. W. Thoni, Nashville, Tennessee

*"Vegadex gave me better than 90% control of purslane and chickweed with no adverse effect on my celery. I treated two acres of celery this year but plan to spray my whole crop next year."*

Peter Ludema, Hudsonville, Michigan

**VEGADEx CAN MAKE MONEY FOR YOU, TOO.** This new, spray-as-you-plant weed killer for vegetables kills weeds as they sprout. Vegadex practically eliminates hand weeding, assures better quality crops with cleaner harvests.

**VEGADEx CONTROLS...** purslane, careless weed, henbit (blue-weed), pigweed, crab grass, barnyard grass (water grass), bull grass (goose grass), chickweed, foxtails, annual blue-grass.

**VEGADEx IS SAFE FOR...** collards, mustard greens, turnip greens, broccoli, cabbage, snap beans, soybeans, celery, sweet corn, kale, spinach, hanover salad, brussels sprouts, lima beans, lettuce, garden beets, cauliflower and field corn.

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• Farm Chemicals Department  
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Tulelake—Oregon  
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Longmont—Farm

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**FEBRUARY, 1**

## GILBERT BENTLEY

IN the death of "Gil" Bentley last November, vegetable and flower growers, canners and seedsmen lost a top variety expert. Although Bentley had no formal training in plant breeding, he acquired an unsurpassed knowledge of varieties, having spent 33 of the 50 years of his life on the most comprehensively organized variety trial ground in the world. At the time of his death, he was assistant superintendent of the Oakview Farm of Ferry-Morse Seed Co.

During the several decades of his association with Ferry-Morse, their Oakview Farm of about 900 acres near Rochester, Mich., was the mecca of the vegetable and flower seedsmen of the world. Annually over 3000 variety items, embracing most of the important crops, were grown, examined, noted, and evaluated. In tomatoes alone, over 200 selections, strains, and varieties were generally found in the trials.

In the center of this vast evaluation program young Bentley, over the years, was self-educated and developed into a veritable walking encyclopedia of varietal knowledge. During

the growing season he worked with and helped train budding young plant breeders who came from agricultural colleges of many states and countries, in the techniques of acquiring the perception needed for critical variety evaluation.

Among his own recent vegetable introductions are Crackproof Pink tomato; Early Bell, Golden California Wonder, and Wonder Green pepper; Miragreen pea; and Bouquet dill.

While he never found time to summarize in published form the wealth of information that he noted, he was ever willing to spare time from his many responsibilities to picture a con-

ception of the various varieties on trial for college students, seedsmen, plant breeders, and growers. Undoubtedly these exhilarating experiences with "Gil" Bentley planted ideas in the minds of his many friends and associates that have and will result in the development of many more new, improved varieties.—Robert L. Carolus, Michigan State University, East Lansing.

## GRANULAR HERBICIDES FOR WEED CONTROL

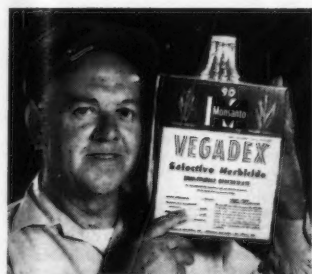
HERBICIDES that are highly injurious to crops in spray form may, under some conditions, be used in granular form with safety.

Recent experiments by USDA Agricultural Research Service, in co-operation with several state experiment stations, showed that granular herbicides remain in contact with crop foliage only momentarily before reaching the soil where they kill emerging weed seedlings. This momentary contact does little or no damage to the foliage.

The materials used consist of carriers such as granular Fuller's earth or vermiculite impregnated with weed-killing chemicals.



"Gil" Bentley



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FEBRUARY, 1959

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## LETTERS TO THE EDITOR

### Alaskan Cabbage and Cover Girl

Dear Editor:

Your August AMERICAN VEGETABLE GROWER had as a cover picture my 12-year-old daughter, Janet, taken in 1944 in my cabbage patch. You stated that cabbages grew up to 42 pounds, but last year I succeeded in raising five of them that weighed over 50 pounds.



Janet Sherrod, our August cover girl. Photo was kept readily at hand over period of years in anticipation of Alaska attaining statehood.

I tried for 18 years to raise a cabbage that would weigh 50 pounds in order to collect a standing \$50 prize at our Matanuska Valley Fair. Our world's record cabbage weighed 61 pounds. The variety was O. S. Cross.

I am enclosing a picture of my daughter, Janet Lewis, your August cover girl, now married. She is behind a 52-pound cabbage with two of her three children, Bradley, age 5, and Diana, 3.

This cabbage was photographed this past summer by *National Geographic Magazine* and may appear in a coming article on Alaska.



Janet Sherrod Lewis with son and daughter.

I was a subscriber to Market Growers Journal and have taken AMERICAN VEGETABLE GROWER for many years and enjoy it very much. My wife and I attended the Vegetable Growers Association of America convention in St. Louis in 1953 and the convention in Grand Rapids in 1956. We are sorry we could not attend the 1958 convention.

Palmer, Alaska

Max Sherrod

### Black-Eye Crowder Pea

Dear Editor:

I would like a seed source of the Black-eye Crowder pea. During the dry years we lost seed of this variety and, therefore, are anxious to get another start. If you or any of your readers could help out on locating seed of this variety, it would be appreciated.

Iowa Park, Tex.

V. I. Woodfin, Jr.  
Texas Agri. Exp. Sta.

### Cauliflower Under Plastic

Dear Editor:

With the development of an early cauliflower crop (July and August) here in Leelanau County in northwestern Michigan, it was necessary to have greenhouse-grown plants. The logical answer was a plastic house. We decided to build one along the lines of the Cornell house. Since our site has a slight slope, the side panels are of different heights to correspond with the grade. The roof panels are approximately 4 x 12 feet in size. The side panels are each 12 feet in length. The ends of the house are also made of panels. Each panel is covered on both sides with 4 mil polyethylene. At the end of the growing season the panels are removed and stored.

Since we were building the house on a limited budget, we needed an inexpensive source of heat and found a used 24-inch hot-air furnace complete with blower and stoker at a very reasonable price. We placed the furnace at the lower end of the house. The hot air is taken from the furnace by plastic tubes of our own manufacture to two manifolds, one for each side of the house.

From the manifold the heat is distributed to three lines of 6-inch steel irrigation pipe buried 6 inches under the growing beds. The spent air is exhausted at the upper end of the house and is recirculated after heating.

There was about a 4-degree differential in soil temperature from one end to the other. We placed the heat lines 15 inches from the walls. The second and third lines are about 40 inches apart. This method of radiant heating gave us excellent results.

The seed is sown directly in the beds, using a garden seeder, in rows about 5 or 6 inches apart. We use a wide shoe on the seeder so as to spread the seed somewhat. We grow about 50 to 60 first-class plants to the square foot by these methods.

Our first seeding is made about the first of March, using one-half of the space. It is followed by successive seedings in order to give us a continuing harvest. This past season we started cutting on July 9. I feel that this date would have been advanced by a week had we not had such a cold spring.

The soil in the house is fumigated by using methyl bromide several months in advance of the first seeding.

Northport, Mich.

David G. Scott

### Orchids to Us

Dear Editor:

Just a few lines to let you know that we enjoy your magazine very much and are grateful for the wonderful information we find in each issue.

West De Pere, Wis.

A. C. Dado

AMERICAN VEGETABLE GROWER

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## ANOTHER **TEAMED-POWER** **BONANZA**

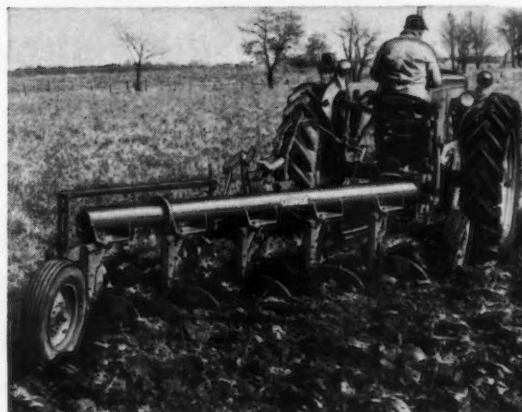
### Your most usable Row-Crop® power matched for big-acreage plowing

That's right! This TEAMED-POWER combination plows five acres while you're used to doing only four—one-fourth more than previous or competitive models. Why? Because it has more power...and it puts power to brand-new uses—to save your time and increase your profits.

**THE POWER:** It's the Oliver 880—proved the power leader of all row-crop tractors in the field. Now it fits squarely in the 5-plow class with smooth 6-cylinder power and economy of high-compression gasoline or full diesel engines. Its big power works for you better than ever with Power-Booster Drive, Power-Traction Hitch, Powerjuster wheels, Independently Controlled PTO and the most versatile touch-control hydraulic system on any tractor.

**THE PLOW:** The 5-bottom, pull-type No. 4441—newest of the famous line of Oliver light-draft, Raydex-equipped plows. When the going gets tough, you'll really appreciate its super polished moldboards. You move on through. It's truly design-matched for Oliver's great new power. Spring-trip bottoms, high trash clearance, patented "Hydra-lectric" depth control make this TEAMED-POWER Oliver the standout plow of the decade.

Ask for a demonstration on your own farm. See how much more TEAMED-POWER will *save*—in time, in labor, in fuel expense.



A deep, mellow seedbed comes easy with this TEAMED-POWER combination—the 4-, 5- or 6-bottom No. 4441 plus a design-matched Oliver tractor.



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FEBRUARY, 1959

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## ORTHO products and field service pay-off

say leading vegetable growers



**"Dependable recommendations from our ORTHO Fieldman helped us.** This year my tomatoes graded 92% U.S. #1 at the cannery bringing me top price. They were disease and insect-free and had good color. I attribute this success to the well formulated and dependable recommendations of the ORTHO Fieldman which helped us achieve high quality tomatoes. I'm sold on ORTHO high quality materials."

From a field interview with Mr. Jack Crawford, Swayzee, Indiana.



**"The best insurance is a complete ORTHO program.** It's my opinion that the ORTHO dusts are excellently formulated and give us real good flowability. We have had excellent control of cabbage loopers and aphids since we have used ORTHO products on our broccoli."

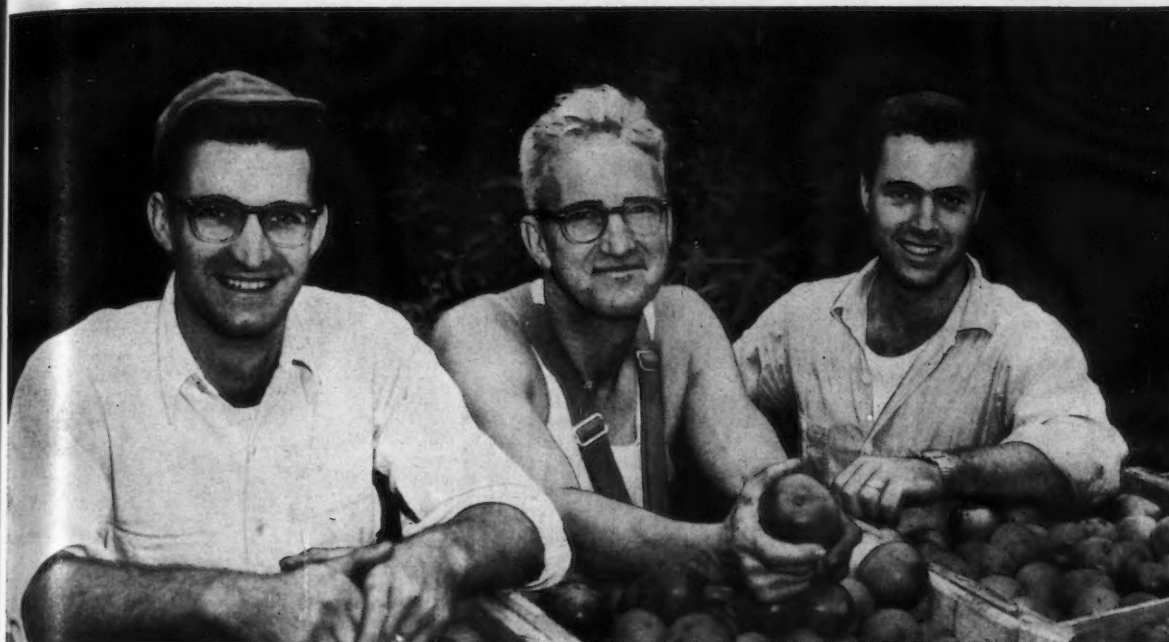
From a field interview with Mr. Bernard Chattin, Hilton, New York.

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**"ORTHO has taken a real interest in our operations.** The ORTHO field service is of prime importance to us. Their dependable advice coupled with ORTHO consistently well formulated material have always given us the desired control. ORTHO Fieldmen and ORTHO products are helping us tremendously.

During our 12 years of operation, we feel Calspray was the first chemical company to take a real interest in us."

From a field interview with (left to right) Robert, Philip and James Stockwell, vegetable and apple growers, Leominster, Mass.

## ORTHO offers a crop protection program tailor-made for your area

Your ORTHO Fieldman knows the particular problems of your area wherever you farm. When you buy the ORTHO program you get the benefit of this technical

field service, a half century of research, and all the scientific experience that makes ORTHO America's number one line of agricultural chemicals.



**Helping the World Grow Better**

**California Spray-Chemical Corp.**  
A Subsidiary of California Chemical Company

Scientifically trained Fieldmen located in all of the nation's leading vegetable growing areas.

Portland, Ore.; Sacramento, San Jose, Fresno, Whittier, Calif.; Phoenix, Ariz.; Salt Lake City, Utah; Maryland Heights, Mo.; Dallas, Texas; Memphis, Tenn.; Maumee, Ohio; Haddonfield, N. J.; Springfield, Mass.; Medina, N. Y.; Columbia, S. C.; Orlando, Fla.

ON ALL CHEMICALS, READ DIRECTIONS AND CAUTIONS BEFORE USE



Three- and six-ear boxes of corn, overwrapped with cellophane, are packed in cartons sealed with Bostitch D9. Top remains securely fastened through refrigeration.

Pre-packaged coleslaw, salad mix and greens are cello wrapped and packed in dozen lots in master cartons. Each operator stitches over 80 cartons an hour.

## Stapling faster, stronger, lower in cost reports Florida grower and shipper

Paul Dickman ships 300-car lots of pre-packaged produce from a 1500-acre farm at Ruskin, Florida.

One crew of three women makes up about 1500 master cartons a day, using Bostitch Bliss stitchers that form their own staples from a coil of wire.

In another operation, two men seal a different kind of carton with portable Bostitch D9 Autoclench Staplers. They top-seal about 1000 cartons a day, placing 4 staples in each.

Dickman Farms switched to stapling in 1950. In nearly nine years, they've proved beyond doubt that

stapling is faster, more secure and more economical than former methods.

Growers, packers and shippers all over the country report stapling economies. And many find Bostitch stapling the best answer where cartons have to be opened for inspection and re-sealed securely.

A Bostitch Economy Man will outline the advantages of stapling in your operation. He's listed under "Bostitch" in the telephone book. Why not give him a call while you're thinking of it? Or write Bostitch, 422 Briggs Drive, East Greenwich, R. I.

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STAPLERS AND STAPLES

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C. M. Laird (right) planted 80-acre field of carrots on contract along Texas Gulf Coast. Lupe Cantu (left) helped Laird; Rayford Kay (center), Matagorda county agent, offers helpful advice.

# THEY GROW Vegetables Under Contract

**Texas vegetable growers producing large volume profit by using contractor's marketing experience**

By A. B. KENNERLY

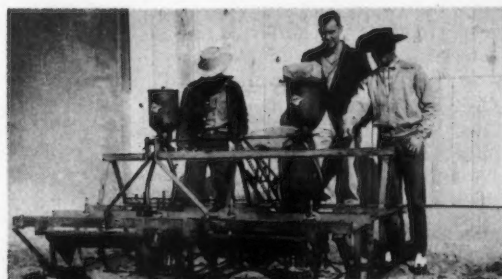
**T**O contract or not to contract? That's the question facing many vegetable growers in Texas. Take, for example, a Texas carrot grower who was about ready to harvest his crop under contract for \$10 a ton. He had felt satisfied with his contract until he heard a report that fresh carrots were selling for \$90 a ton.

But most growers that go heavy on the production end and are light on experience in marketing prefer to turn the selling chore over to some vegetable contractor.

"I'd rather grow my crop under contract," says A. V. Miller of Matagorda County, who has been growing onions off and on along the mid-Texas coast since 1939. Miller started his onion growing experience in Calhoun County growing a winter crop of onions, then planting cotton in the middles for double income. "I averaged hitting a good crop and market for onions three out of five years," Miller recalled. "But then I figured \$25 to \$40 an acre a good income in those days."

Miller now has 90 acres of onions under contract. He gets some of his neighbors to grow enough onions to bring the total to around 200 acres which will give sufficient volume to interest a contractor. Help in this phase of activity was given by Mata-

Special type carrot planter used on C. W. Laird farm. Laird's initial contract last year was with Lower Rio Grande Valley firm.



A. V. Miller (left), Texas onion grower, believes it's important to contract only with firms having good sales outlet. Rayford Kay (right) helped Miller interest other growers to get required volume.

gora County Agricultural Agent Rayford Kay.

"I'm very careful in selecting the individual or firm with whom I make a contract," Miller points out. "I prefer to deal with someone who has the ability to market the crop."

Miller tells about the time he sold a field of onions for \$40 an acre. "About the time the field was ready for harvest, the buyer called me by telephone and told me to plow up the field," Miller says. "I plowed up the

field, but I refused to do business with him after that. I can't afford to be tied up with anyone who can't sell my crop at a profit to himself. He won't be making money long for me."

Occasionally, Miller sells a crop of onions in the field, but he would rather sell by the bag. However, he takes a considerable chance selling by the bag, as does the buyer who buys the field. Difference can mean

(Continued on page 42)



# THE VEGETABLE AREAS OF AMERICA

## GEORGIA...

This is the seventeenth in a series on the important areas of the United States. Previous issues covered New Jersey, Florida, Eastern Virginia, Arizona, Mississippi, Louisiana, Long Island, Maine, South Carolina, Maryland, Wisconsin, California's Imperial-Coachella, Central, and Coastal valleys, as well as an article on the South Coast, San Francisco Bay, and Tulelake Basin of California, and Indiana.—Ed.

By **CECIL BLACKWELL**  
University of Georgia, Athens

**G**EOORGIA is no "Johnny come lately" in the business of growing vegetables. Vegetable production in Georgia dates back to the days when "truck farming" was confined almost entirely to those areas which could produce "out of season" for shipment to large population centers before local market gardeners could have vegetables ready for sale. During the 1920's, for example, vegetables brought Georgia growers between \$6 million and \$8 million annually. This compares with a fairly rapid increase to the range of \$20 million to \$30 million in recent years, although part of this increase has been only "apparent" due to the inflated dollar.

Georgia now ranks fourth in the United States in acreage of vegetables grown for fresh market, exceeded only by California, Florida, and Texas. There has also been a rather marked increase in the production of vegetables for commercial processing in recent years.

Vegetables are grown to some extent in almost all counties in Georgia either for fresh local market, commercial processing, or for distant shipment. There are, however, definite areas of concentrated production. Areas A, B, and E on the adjacent map are the most concentrated. Areas A and B are in the coastal plain section of the state where the soils are mostly sandy loam types and where the climate is conducive to spring and early summer production of "warm season" vegetables and winter production of the "cool season" crops such as cabbage and several leafy vegetables.

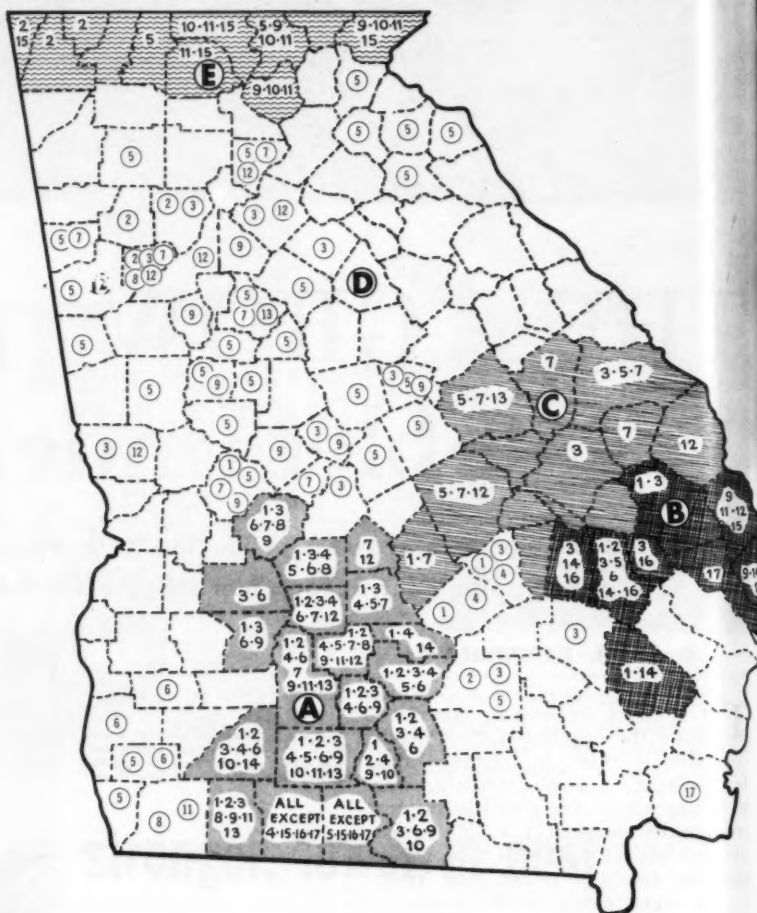
The greatest concentration of acreage is in Area A where many vegetables are grown for fresh market and several for commercial processing. Three of the nation's top 100 vegetable producing counties are in area A near or adjacent to the Florida line. They are Thomas County

(48th), Brooks County (52nd), and Colquitt County, (95th).

Georgia's climate varies greatly from the mountains of north Georgia (area E) to the coastal plain area. Area E is ideally suited to late spring and summer production and is also favored by nearness to southern markets during the season when few vegetables are grown locally due to extreme summer temperatures.

Some 19 different vegetable crops are grown commercially in the state. Of these, the principal fresh market vegetables are watermelons, tomatoes, sweetpotatoes, cantaloupes, snap beans, lima beans, cabbage, southern (field) peas, okra, summer squash, turnip greens, mustard, collards, sweet corn, onions, cucumbers, Irish potatoes, lettuce, and some spinach and kale.

The principal processing crops are pimiento peppers, southern (field)



### KEY TO MAP

#### Geographical Areas

- A—Southcentral Area      C—Northeast Area  
B—Southeast Area      D—Central Area  
E—Mountain Area

### MAJOR VEGETABLE CROPS

- |   |                    |
|---|--------------------|
| 1) Watermelons  | 10) Cabbage        |
| 2) Tomatoes   | 11) Snap beans     |
| 3) Sweetpotatoes  | 12) Lima beans     |
| 4) Cantaloupes  | 13) Squash         |
| 5) Peppers—pimiento and bell  | 14) Sweet corn     |
| 6) Cucumbers  | 15) Irish potatoes |
| 7) Southern peas  | 16) Onions         |
| 8) Okra   | 17) Lettuce        |
| 9) Leafy vegetables—turnip greens, mustard, collards, spinach, etc. |                    |

peas, pickle cucumbers, okra, squash, some bell peppers, and a variety of leafy crops such as turnip greens, mustard, collards, kale, and spinach.

Until recent years all of the canning and frozen food plants in Georgia were locally owned and operated and pimiento was the major crop

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Supplemental irrigation is on increase in Georgia. Open alley permits passage of spray equipment for earworm control and harvesting efficiency.

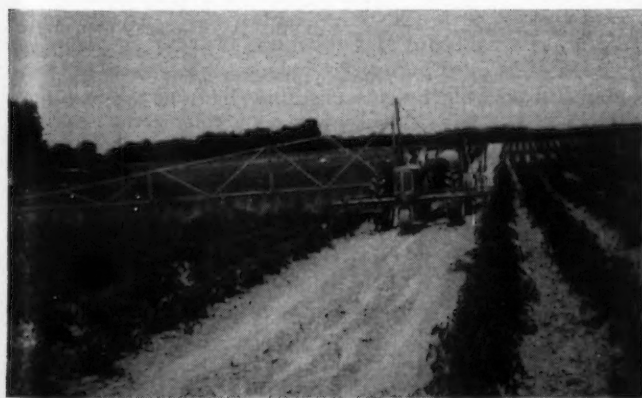
grown for processing. Most of the plants are still owned and operated locally although there are now four nationally known processors operating in the state as a result of either merger with or purchase of local plants. The processing industry should enjoy a bright future in Georgia.

There are many types of vegetable growing enterprises in the state ranging all the way from large specialized operators who have their own marketing facilities to small farmers who grow one or more vegetable crops as a "supplemental crop." In between these two extremes are the small but progressive growers who are organizing for the purpose of co-operative marketing.

Georgia ranks below the national



Less labor is needed where a four-row transplanter is used for planting sweetpotatoes.



Tomato acreage ranks second only to watermelon acreage in Georgia. Here a commercial tomato field is being sprayed for pest control.

average in yields per acre and prices received by the grower. This is explained in part by 1) some low income per acre crops such as southern peas and watermelons; 2) much of the grading and packing for shipment is being done by buyers rather than growers, which means that the grower's net market price may be less than it would be if he performed these functions for himself, either individually or through co-operative associations; and 3) the fact that yields per acre on many vegetables are considerably below what they could and should be if better production practices were followed.

This indicates that there is a need for considerable improvement in production and marketing practices on the part of Georgia growers. However, some very real progress has been made in recent years, much of which is due to the efforts of the agricultural extension service, experiment stations, USDA, and the co-operation of many commercial concerns as well as the progressive

attitude of many growers themselves.

These agencies working as a team and with the support of input and output industries such as seed, fertilizer, pesticide and machinery companies, marketing firms and processing plants should help build a brighter future for Georgia vegetable growers.

Following is a brief discussion by crops giving the acreage, area of production, and in some cases the trends or outlook for the crop in the state.

1) **Watermelons** are the state's most important truck crop in terms of acreage. Georgia ranks third in acreage in U. S. but second in production, exceeded only by Florida. A

(Continued on page 54)



Albert J. Longhurst, his wife, Melba, and four children gather in living room of their comfortable home in Blackfoot for family portrait.

## FROM RAGS TO RICHES

Idaho grower started with practically nothing just five years ago. Today he heads a thriving operation

By **MILTON B. WESTON**  
Bingham County Extension Agent, Idaho

**W**HEN Albert J. Longhurst started farming about five years ago on reclaimed desert land in Bingham County, Idaho, he and his family lived in a box car. Today this 30-year-old potato grower and his family own a modern home in Blackfoot and better than \$60,000 in farm equipment.

Like other successful potato growers in Bingham County, Longhurst has proven that reclamation of the desert area by the Rising River Land and Livestock Development Company was a profitable undertaking. About 50,000 acres of desert land

were brought into cultivation by the use of sprinkler irrigation. The depth of wells varies from 60 to 200 feet, and there seems to be an unlimited supply of underground water. Longhurst rented 420 acres of land from the Development Company.

The first year on this newly-developed land, Longhurst planted 120 acres of potatoes, 60 acres of peas, and 240 acres of wheat. A hailstorm wiped out most of the farms in the area. Longhurst's wheat and peas were a complete loss, but he salvaged 100 sacks to the acre on his potato ground. At the close of 1953 he had lost about \$20,000.

The area was declared a disaster area. The government granted 33 loans to growers needing assistance,

and creditors deferred loan payments. In 1954 Longhurst produced 290 sacks of potatoes to the acre, plus 45 bushels of peas and 70 bushels of wheat.

Longhurst is a firm believer in a fertilizing program. He applies from 100 to 140 pounds of available nitrogen per acre and 100 to 130 pounds available phosphate on his potatoes.

When he started in 1953, Longhurst employed two men to help him move Alcoa aluminum irrigation pipe. Last year he hired nine men, and he has four men working on a year-around basis. He pays them \$350 a month plus other benefits, such as two weeks paid vacation, gasoline expenses, and other incidentals.

Carl and Leo Hobbs, year-around employees who repair machinery and keep equipment in shape, worked with Longhurst in inventing and building a new type self-propelled mechanical potato loader, the spudnik.

The device consists of an elevator in two telescopic sections, with a self-propelled loading end which swivels in a better than 90 degree arc to run a shovel hopper under the pile of potatoes in the Longhurst storage cellar. This machine can load a ton of potatoes a minute from the floor of a cellar into a bulk piler. Longhurst claims there is less bruising of the potatoes with the use of the loader than with hand labor.

Longhurst plans to produce these machines on a commercial scale. He and his men have already sold a number of them.

Longhurst operates two two-row potato combines, and during the winter his men sort all the potatoes. The past two years he has raised 100 acres of certified seed potatoes which are sold locally. He gets from 15 to 20% more for them than he would for No. 1's.

He steam cleans his equipment at planting time and before harvesting.

(Continued on page 47)



Potato digging operation at harvesttime.

The Longhurst "spudnik" potato loader.





# CASE 310 Agricultural Crawler...

## Better Flotation...

## Sure-Footed Traction

### for specialized jobs

Case 310 crawler with 6-foot heavy-duty offset wheel disk. Standard 48" gauge tracks; also 42", 60", and 72" gauge. Toolbar-dozer combination available with complete line of tillage tools.



### More power per pound of weight than any other crawler...

You'll marvel how this tough little Case 310 crawler picks up heavy loads and "hangs on" in tough spots. Its 42 gross horsepower Case engine has the highest compression in its field . . . develops peak torque at about two-thirds of rated speed. That's why it gives you up to 5690 pounds drawbar pull—more than any other crawler in its price range!

This lugging power combined with ground-biting steel tracks gives you *usable* work power regardless of weather and field conditions. It provides sure-footed traction in sand and muck . . . freedom from soil-packing problems . . . ground-hugging stability on hillsides.

Ask for a demonstration. Ask your Case dealer about the Case Crop-Way Purchase Plan, too, that lets you buy now, make later payments when you have money coming in.



## J. I. CASE

J. I. CASE CO. • RACINE, WIS.

1st in Quality for Over 100 Years



Case 900 diesel pulling six 16-inch bottoms in heavy sod. Here's nearly 4 tons of weight and traction with 70 eager drawbar horsepower to pull *big* implements, land levelers, wide-hitch rigs. Has 6 speeds, wide-swing drawbar, comfort seat. Power steering optional.

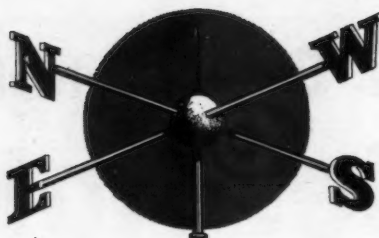
### MAIL for full information

Send for illustrated catalogs on full line of Case wheel and crawler tractors. Mail to J. I. Case Co., Dept. B-219, Racine, Wisconsin.

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Name \_\_\_\_\_ Student ☐

Address \_\_\_\_\_



- New Jersey Growers Urged to Report Unfair Union Practices
- California to Extend Potato Plant Breeding Program

## Labor Unions and Growers

**NEW JERSEY**—At the December meeting of New Jersey State Horticultural Society, pertinent information on labor unions was presented by Food Producers Council, Inc.

Fruit grower groups from various eastern states support the council's work with sizable monetary contributions, as do other farm groups, including Farm Bureau. Food Producers Council can be reached through New Jersey Farm Bureau, 168 West State St., Trenton 8, N.J.

George R. Hoffmire is executive vice-president of the council and attorney is Benjamin Werne, a man who is prominent in management-union negotiations.

Werne asked growers to be sure to send information about union activities to the council so that it can be kept up-to-date and can advise them in the correct course of action to follow. He spoke at length about the unloading charge, pointing out that the real victims are the growers who will not speak. Some unions use a fear psychology which is more bark than bite. When confronted with the facts, Werne said, the unions will back down.

It's necessary for agricultural producers to fight against the unions, he pointed out. He told how the unloading charge used to be \$7.00 a load, whereas today it's as high as \$20.80 a load. This money comes out of the grower's pocket. He cannot pass it on to the consumer.

There is increasing publicity in union magazines and newspapers on the union of labor and grower for the mutual benefit of each group, Werne declared. But the power to help is the power to destroy, he said, intimating that growers must solve their own problems and not let the unions do it for them.

When it is necessary to sign a contract with the union, Werne suggested that the facilities of the council be used in order to get a fair contract. Do not take any contract, he cautioned, but seek the help of specialized lawyers who deal with unions and know how they operate and how to bargain effectively for a good contract.

## Study Retail Level

**IDAHO**—The Idaho Grower Shippers Association at its recent annual convention in Boise approved a resolution calling for an investigation or study of the concentration of economic power "at the retail level of food distribution," particularly by major grocery chains.

The resolution left the doors open to an investigation by Congress or a study by Federal Trade Commission.

Because of anticipated consideration of legislation dealing with the subject at the next legislature, the group voted to hold area meetings during this past December to discuss grades of potatoes that could be shipped or processed for human consumption.

The proposal called for a poll to be taken.

Milt Eberhard, Blackfoot, was elected president to succeed R. Doyle Symms, Caldwell; LaVern Routh, Twin Falls, first vice-president; Sterling Johnson, Parma, second vice-president; Robert Belson, Roberts, re-elected secretary-treasurer.

New directors named were Don Bass, Idaho Falls; LaMar Craner, Burley; and Cecil Kent, Caldwell.

Other resolutions passed included:

A recommendation that the state of Idaho co-operate with the federal government to the extent of \$2300 for the financing of *Fruit and Vegetable Market News*.

A resolution that the association obtain an extension of higher minimum and lower rates into all rate territories on potatoes and onions.

A request that the inspection department set up a school for fruit and vegetable inspection and head grademen.—*Ernest W. Fair.*

## True Market Prices Needed

**DELAWARE**—Prices paid for vegetables and fruit at point of shipment are becoming increasingly important in the marketing of fresh produce. This point was made by Robert Bull, marketing specialist with University of Delaware, during a panel discussion at the 72nd annual meet-

ing of Peninsula Horticultural Society, held recently in Dover.

Because of the increase of direct sales by producers to chain stores, top quality produce is taken off the terminal market. This reduces the value of the terminal market price as an indicator of true market price. Bull emphasized that point-of-shipment prices must be considered in arriving at true market prices.

## Potato Breeding Program

**CALIFORNIA**—A recently-developed interest among growers in new potato varieties will spur a potato plant breeding program at University of California, Davis.

Dr. Glen Davis, professor of vegetable crops at Davis, says 10,000 new seedlings will be tested this year in breeding trials in California.

In many states, Davis says, breeders use 20,000 to 25,000 seedlings a year.

In California, Davis says, one of the primary breeding efforts is in developing a variety resistant to black spot, a disorder characterized by discolored areas, particularly in potato stems and knobs, presumably caused by rough handling.

Davis made these comments on potato breeding at a meeting with farm advisors and vegetable crops specialists at University of California, Davis, recently.

The effects of gibberellins and maleic hydrazide on potato growth were also discussed.

Herman Timm, of the vegetable crops department at Davis, said 1 to 5 ppm of gibberellin, applied to tubers as a dip, gave

## Know Your . . .

## VEGETABLE SEEDS

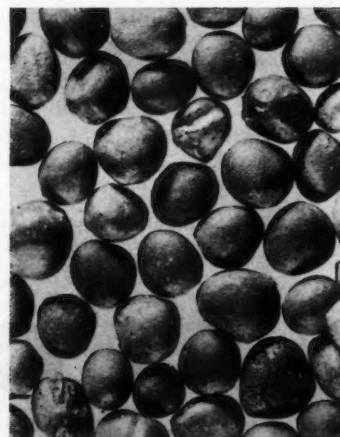
By VICTOR R. BOSWELL  
U.S. Department of Agriculture

### CHINESE CABBAGE

**C**HINESE cabbage seeds resemble those of the oriental mustards more than they resemble seeds of common cabbage. The plant of Chinese cabbage also is much more like oriental species of mustard than like common cabbage. It is a mild-flavored, thin-leaved annual that forms an erect, elongated "head".

Chinese cabbage seeds are dark brown, nearly globular, and very finely dimpled like both mustard and common cabbage. They are about the same size as those of the leafy garden mustards (18,000 per ounce) and half the average weight of seeds of common cabbage. Seed size varies and therefore is not a safe basis for identification.

Seed of Chinese cabbage, like that of other crucifers, is grown in this country in California and in the Pacific Northwest. From 1947 to 1958 the acreage grown for seed varied from 2 to about 20 acres annually; production varied from about 1100 to 13,000 pounds. Average yields are about 600 to 800 pounds per acre. During



the early 1950's, annual imports varied from about 3500 to 5000 pounds.

If we continue to limit soil nutrition to N-P-K . . .

# Can we expect improved vegetable quality and yields?

**G**ROWERS and packers now agree that something more than nitrogen, phosphorous and potash is needed to achieve bonus yields and a higher percentage of top grade vegetables.

They have learned that other minerals and trace elements are vital to successful fruit and vegetable growing.

Magnesium for example. Truck-crop failures or losses due to magnesium deficiency have been reported in 90% of the vegetable-growing areas in the eastern half of the U.S. Similar troubles are showing up on much western vegetable growing land.

But it's more than a matter of losses. Magnesium also works to improve quality. Experiments with a variety of vegetable crops show that applications of magnesium can improve sugar content, tenderness, vitamin C content, and color of crop.

## HOW TO DETECT

Magnesium shortages in vegetables follow a familiar . . . and costly . . . pattern. The deficiencies aren't visible until the damage is done. In fact, by the time deficiency symp-

toms appear, you've undoubtedly been paying a heavy penalty in reduced yields and quality for several years.

First visible evidence of trouble is when leaves show yellow areas between the green leaf veins. On some crops, cabbage for instance, a purplish color on the underside of leaves or, in more serious cases, dead areas appear between the veins.

Here's the difference magnesium can make with other crops:

**Tomatoes:** New York Experiment Station results show magnesium-deficient plants yielded 25% less than normal plants, graded "C" on color, were far lower in ascorbic acid and sugars.

**Peas:** University of Wisconsin Experiment Station results show tenderness in peas is greatly improved by application of sulphate of magnesia. And yields were increased by use of the sulphate form of potash.

**Lima beans:** Delaware field trials indicated that sulphate of potash plus sulphate of magnesia applications increased yields by 152.2% over treatment with muriate of potash or potassium sulphate alone.

**Potatoes:** Soil in virtually all potato-growing areas is seriously short of magnesium. But before you can notice the shortage, it must be severe enough to practically kill the vines. Visible signs usually mean that yields and quality have suffered for several seasons.

## THE ANSWER

There are several ways to treat magnesium deficiencies. But the most practical and effective is the use of a *water-soluble magnesium* such as double sulphate of potash-magnesia in a mixed fertilizer. International Minerals and Chemical Corp. markets this magnesium under the trade name Sul-Po-Mag\*. It offers the formula flexibility needed to match the requirements of specific crops. Sul-Po-Mag can also be used for direct application where only potash and magnesium fertilization is indicated.

## SUL-PO-MAG ADVANTAGES

Sul-Po-Mag is granular in form. It stays in the soil longer . . . feeds crops longer, too. The result is sustained growth over the season to help produce top yields.

In addition to increased yields, Sul-Po-Mag can materially improve vegetable quality, as indicated in the lima bean tests mentioned above where Sul-Po-Mag was the source of the sulphate of potash and the sulphate of magnesia.

Want full details on how Sul-Po-Mag can help boost vegetable quality and yields for you? Write for our free magnesium booklet which discusses Sul-Po-Mag and its application to specific crops. Address International Minerals and Chemical Corp., Potash Division, Administrative Center, Skokie, Ill.

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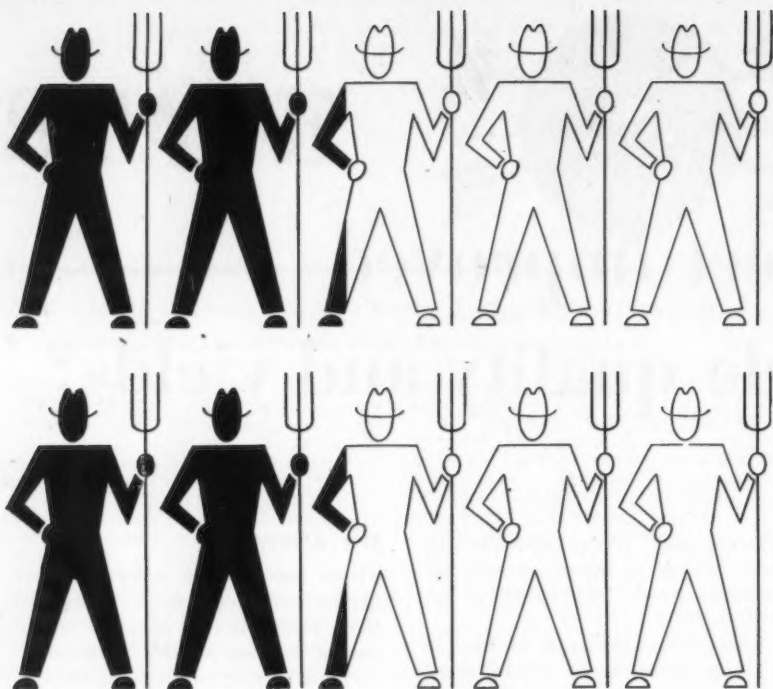


POTASH DIVISION

**INTERNATIONAL MINERALS & CHEMICAL CORPORATION**

Administrative Center: Skokie, Illinois





## Are you among the 44% using plastic pipe for farm water systems?

A recent survey by a leading national farm magazine shows that 44% of all American farms and ranches now use low-cost, easy-to-install plastic pipe in their water systems.

If you don't happen to be among that 44%, we'd like to introduce you to USS National Polyethylene Pipe NSF Grade. Lightweight but rugged, it's ideal for irrigation, sprinkler and stock watering systems—or for any other farm use where you are transporting water at temperatures from  $-90^{\circ}\text{F}$ . to  $+120^{\circ}\text{F}$ .

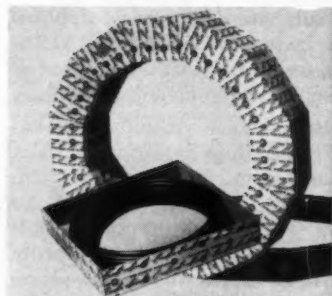
With flexible USS National Polyethylene Pipe, you can literally carry your irrigation system on your shoulder. It behaves like hose—runs around corners, over obstacles, under fences. Installation is quick and simple... a one-man job.

National Polyethylene Pipe NSF Grade comes in lengths up to 400', in diameters from  $\frac{1}{2}$ " to 6". It's made of 100% virgin polyethylene plastic,

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with 3% of an inert black pigment filler added to prevent deterioration from ultraviolet rays. Insert fittings in nylon and styrene copolymers (NSF) are now available from National Tube. Get them from your National Polyethylene Pipe Distributor.

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consistently better sprouting than untreated potatoes.

While most experimental work has indicated gibberellins may be very useful to growers, Timm said, more work is needed before definite recommendations can be made. Because gibberellin increases stem elongation and may speed cell division, the treatment can produce rather tender sprouts that could be easily damaged by frost or by early-season diseases, such as rhizoctonia.

Maleic hydrazide applications definitely help soil storage of tubers by inhibiting sprout growth, Timm said. But, he pointed out, application has to be accurate. The material is a plant regulator and very low

### MARKETING ORDER ENDED

After being in effect five years, the California long white potato marketing order was ended. Growers, by a 60% plus margin, voted to deactivate the Potato Advisory Board office in Bakersfield and to terminate the marketing agreement.

Growers in nine counties of central California were polled. The decision was announced by W. B. Camp, Jr., chairman of the 19-man advisory board. He said, "It was apparent from the poll results that growers covered by the order were dissatisfied with its operation and the tentative plans for the 1959 season as approved last November."—William Ruffedge, III.

concentrations of the chemical may make it react as a plant stimulator, actually increasing sprout growth.

In fields where the chemical is applied by plane, Timm said, drift could cause a wide variance in application. Another major problem, he said, is making sure that conditions for the chemical to penetrate are optimum. Leaf turgidity is important, since the amount of maleic hydrazide actually reaching the tuber is critical in deciding its effectiveness.

### 400th Meeting

**MASSACHUSETTS**—The Boston Market Gardeners Association, the oldest vegetable growers' association in America, held its 400th meeting on January 10 at the Waltham Field Station auditorium, with John Asoian, of Andover, presiding.

This organization was started in 1886. In the early years, meetings were held every two weeks during the winter season. Now, four monthly meetings are held during the winter.

About 100 members gathered for the all-day meeting. In the morning a question and answer session was held with staff members of the University of Massachusetts supplying the answers. A hot baked ham dinner was served at noon. After a business meeting, Al Loosigian, of Andover, told about the operation of his farm, showing pictures of the crops and operations.—Robert E. Young, Sec'y, Waltham.

### Junior Winner Grows Tomatoes

**OHIO**—The 1958 winner in the Ohio junior canning crops project is Jerry Damschroder, Lindsey. The youth received an engraved certificate and a \$100 U.S. savings bond from the Ohio Canners association.

Damschroder raised 2.8 acres of tomatoes with an average yield of 19.14 tons per acre, according to E. C. Wittmeyer, Ohio State University extension horticulturist. This was almost double the average yield for all growers in 1958. The crop was grown under contract with a canning company in Fremont. Other phases of the contest included a comprehensive report on

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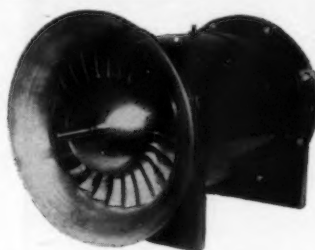
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cultural practices followed, a review of supplementary activities, and participation in community and school affairs, Wittmeyer says.

Damschroder is an honor student at Gibsonburg high school, a member of the Gibsonburg F.F.A. chapter and has served two years on the Sandusky County junior fair board.

The project is designed to recognize young people who raise vegetables for processing. It is sponsored by the Ohio Canners Association, the agricultural extension service, The Ohio State University, and vocational agricultural service in cooperation with the National Junior Vegetable Growers Association.

### VGAA CONTEST WINNERS

Purdue University ran away with all the honors in the National Intercollegiate Vegetable Judging and Identification Contest which was part of the 50th annual convention of Vegetable Growers Association of America held in Cleveland last December.

The men from Lafayette, Ind., coached by Leslie Hafen of Purdue, not only won top honors as a team, but Clifford Barbour, Larry Harris, and Don Toczak placed one, two, three in that order for the individual honors.

The contest is sponsored annually by VGAA to promote interest in the vegetable growing industry. Students are required to identify diseases, insects attacking the plants, and nutrient deficiencies. Grading of potatoes and weed identification are also included.

Second honors went to the University of Massachusetts and the University of Minnesota placed third in the competition.

### Shallots for Florida

**FLORIDA**—At their recent 71st annual meeting at Clearwater, Florida State Horticultural Society elected Prof. S. J. Lynch of University of Miami Experimental Farm new president of the group. Prof. Lynch succeeds Dr. A. F. Camp, of Lake Alfred, Fla., as head of the nation's oldest horticultural society.

Topics of interest to vegetable growers discussed during the meeting included virus diseases which affect vegetables in south Florida.

Most virus loss to south Florida vegetable growers has come from three aphid-borne viruses, reported John N. Simons, Everglades Experiment Station, Belle Glade.

The first of these, cucumber mosaic virus, is confined to the area around Lake Okeechobee and affects pepper and celery. Wandering jew is the principal weed host of this virus. The second, veinbanding mosaic virus or potato virus Y, causes serious damage to peppers and tomatoes over all of south Florida. This virus is weed-borne in nightshade. The third serious virus is the watermelon mosaic virus. This virus annually causes large losses to cucurbitaceous crops including cucumber, squash, and watermelon. The principal weed host is wild cucumber.

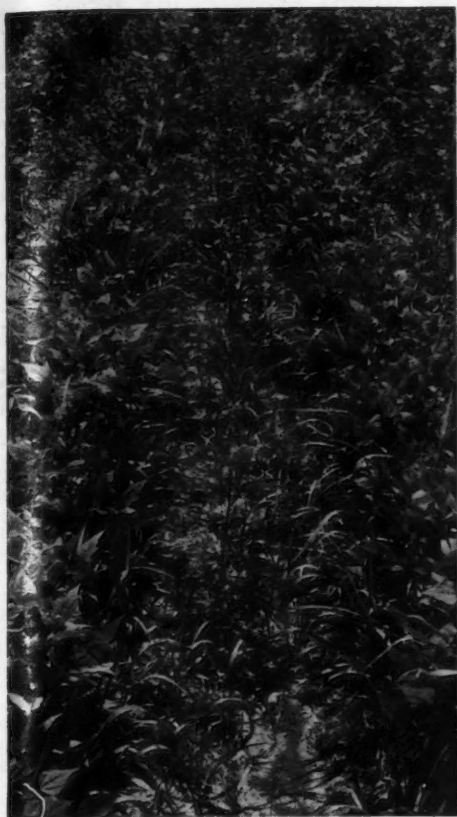
E. G. Kelsheimer, Gulf Coast Experiment Station, Bradenton, Fla., told growers that shallots, a multiplying onion, could very well become an important vegetable crop for Florida. They grow well in the state during the cool months. Selections of shallot bulbs from disease-free areas plus the proper soil fumigation for nematodes and mole-crickets should make this crop a money-maker for the small truck farmer.

Growers who use the same land over and over can find shallots an economical and fair paying crop when they treat their areas with a soil fumigant. Vapam was the outstanding material when treatments were compared for weight of clones. The least amount of tip-burn was present on the Vapam-treated plots. Tip-burn adds to the cost of production because each





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nated the infestation—something that hoeing and cultivating don't do! Dowpon sprayed on the grass is absorbed and moves down into roots. Then the land is plowed and planted. Result? The grass problem is licked!

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discolored tip must be removed by hand before the shallot is salable.

The application of 1000 pounds per acre of a 6-8-8 fertilizer was found to result in greater yields of Charleston Gray watermelons than 500 pounds per acre at both Gainesville and Live Oak. These results were discussed by V. F. Nettles, Agricultural Experiment Station, Gainesville, and H. W. Lundy, Suwannee Valley Experiment Station, Live Oak. In tests at both locations of sources of nitrogen an increase in number of watermelons resulted from the use of 25% organic nitrogen in the application of fertilizer made at planting only at Gainesville. Yield at Live Oak was increased by applying all the fertilizer at planting rather than in two applications.

The effect of irrigation on the chemical composition of tomato leaves was covered

### CHANGE IN NAME

New Mexico A & M College's name has been changed to New Mexico State University of Agriculture, Engineering, and Science. In general usage it is to be known as New Mexico State University.

by John L. Malcolm and Roy W. Harkness, Sub-Tropical Experiment Station, Homestead, Fla. Water supply, regulated by differential irrigation, significantly affected the availability of all of the major elements to tomatoes grown on a Rockdale soil.

With a limited water supply, plants could not absorb enough phosphorus, potassium, and magnesium for maximum plant growth. Intermediate levels of water availability enhanced the absorption of phosphorus, potassium, and magnesium up to the time of the first picking but by the last picking, one month later, the supply of nitrogen, potassium, and magnesium was becoming depleted. Three inches of water per week, the maximum rate of application, severely reduced the nitrogen supply by the first picking.

Both individual leaflets and composites of whole leaves were suitable samples for determining the effect of irrigation on the nutrient status of tomato plants.—Porter V. Taylor.

### MOVIE ON CO-OPS

Farmer Co-operatives Today, a 20-minute, 16mm color film has been released by USDA through United World Films, Inc., distributor of U. S. government films. The motion picture outlines the many types of co-operatives that farmers have set up, shows the kinds of services they perform, and how these services become available.

### Potassium Studies

OREGON—Through an annual grant from American Potash Institute, Oregon State College has started a search to learn why some western Oregon soils tend to "lock up" reserve supplies of potassium while other soils make this important element readily available for crop production.

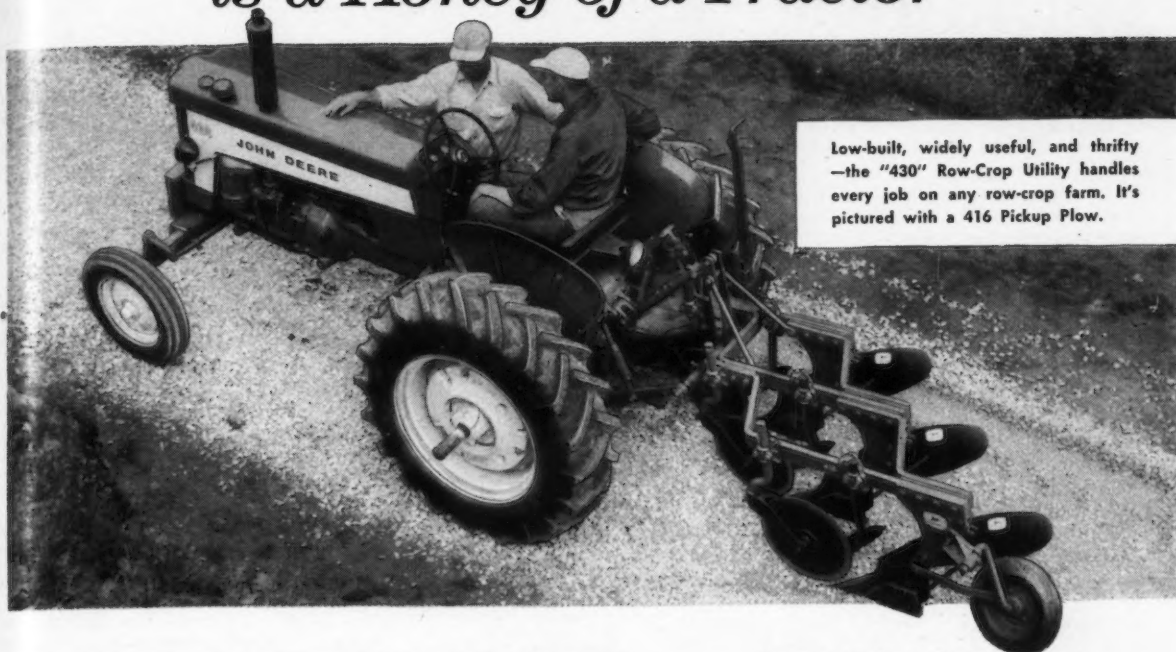
The three-year project, totaling \$7800, was announced by OSC Agricultural Experiment Station soil scientists T. L. Jackson and M. E. Harward who are supervising the research.

The project has two purposes, according to the OSC soil scientists:

- 1) To secure more "knowledge about the amount and rate of potassium that soil mineral matter releases in a form available to plants."
- 2) To determine "the kind of clay and silt minerals present in the soils and the influence they have on the release of potassium by the soil."

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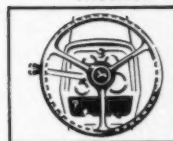
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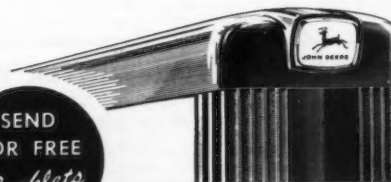
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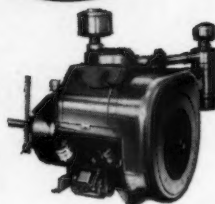
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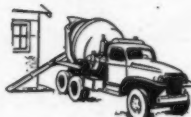
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- **Handbook for Vegetable Growers**, by James Edward Knott. Much of the widely scattered information on vegetable growing is packed into this pocket-size handbook. A "must" for every vegetable grower. 238 pages. \$3.95
- **Vegetable Growing**, by James S. Shoemaker. How, when, and where you can profitably produce 40 different vegetables. 515 pages. \$6.50
- **The Tomato**, by Paul Work. A practical treatise on the tomato for the amateur as well as the commercial grower. 136 pages. \$2.50
- **Destructive and Useful Insects**, by Metcalf, Flint, and Metcalf. Contains descriptions and photographs of all fruit and vegetable insects. 1071 pages. \$12.50

- **Pesticide Handbook**, by Donald E. H. Frear. 10th edition, just published. Lists trade names, active ingredients, uses, and manufacturers of spray chemicals and pesticide equipment. 216 pages. \$1.50
- **The Care and Feeding of Garden Plants**, authored by 14 leading authorities. First book of its kind to acquaint the home gardener with plant hunger signs. Color plates make it easy to identify deficiency symptoms. 184 pages. \$3.00
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Books sent postpaid on receipt of check or money order.

## AMERICAN VEGETABLE GROWER

Willoughby, Ohio

### CALENDAR OF COMING MEETINGS AND EXHIBITS

Feb. 2-4—Ohio Vegetable and Potato Growers Association, 44th annual meeting, Commodore Perry Hotel, Toledo.—E. C. Wittmeyer, Sec'y, Hort. Bldg., Ohio State U., Columbus 10.

Feb. 2-5—United Fresh Fruit and Vegetable Assn., Statler Hotel, Dallas, Texas.

Feb. 3-5—New Hampshire Horticultural Society 65th annual meeting, Highway Hotel, Concord. Feb. 3—Fruit Growers' Day; Feb. 4—Vegetable Growers' Day; Feb. 5—Potato Growers' Day.—E. J. Rasmussen, Sec'y, Durham.

Feb. 4-6—Ohio State Horticultural Society winter meeting, Commodore Perry Hotel, Toledo.—C. W. Ellenwood, Sec'y, Wooster.

Feb. 5-7—West Virginia State Horticultural Society 66th annual convention, Martinsburg.—Carroll R. Miller, Sec'y, Martinsburg.

Feb. 8-14—4th Annual Maine Potato Week.

Feb. 9-11—Canners' and Fieldmen's Conference and Processors' School, Dasher-Hilton Hotel, Columbus, Ohio.

Feb. 11—California Canners and Growers annual meeting, San Francisco, Calif.—R. K. Julien, Sec'y-Treas., 260 California St., San Francisco.

Feb. 13-18—5th Annual Agricultural Pesticides conferences, in Maryland: Feb. 13 at Salisbury State Teachers College, Salisbury, Md.; Feb. 16 at Episcopal Parish Hall, La Plata; Feb. 18 at Francis Scott Key Hotel, Frederick.—P. W. Santele, College of Agriculture, U. of Maryland, College Park.

Feb. 17-19—Northwest Perishable Loss Prevention Short Course, Wenatchee-Yakima, Wash.

Feb. 23-24—Southeastern Pecan Growers' Association 52nd annual convention, Mobile, Ala.—Henry Jennings, Sec'y, Dawson, Ga.

Feb. 24-26—State Crop Improvement Association annual meeting and State Crop Show (tentative), South Dakota State College, College Station.

Mar. 4—Dwarf Fruit Tree Assn. 2nd annual meeting, Hill Top Orchards, Hartford, Mich.—R. F. Carlson, Sec'y-Treas., Dept. of Hort., Michigan State University, East Lansing, Mich.

Mar. 17-18—State Pest Control conference, Mitchell, S.D.

Mar. 22-26—National Association of Produce Market Managers meeting, Hillsboro Hotel, Tampa, Fla.—Jules S. Cherniak, Sec'y-Treas., State Office Bldg., Albany, N. Y.

Mar. 24-26—Ohio State University Annual Farm and Home Week, Columbus.

Mar. 26-27—Co-operative Managers and Directors Conference, Wenatchee, Wash.

Apr. 6-16—1st International Farmers Convention in Israel.—Lillian Baral, co-ordinator, 574 Fifth Ave., New York City, N. Y.

July 7-9—10th Annual Fertilizer conference of Pacific Northwest, Winthrop Hotel, Tacoma, Wash.



### NEW BEAN VARIETY

Longval, new green bush snap bean for fresh market and home garden, will be available to growers for the 1959 season. Developed at Truck Crops Experiment Station, Crystal Springs, Miss., by John A. Campbell, Longval is stringless and averages considerably longer and straighter than beans in its general class such as Stringless Black Valentine and Contender.

Limited seed supplies will be distributed by Service Seed Co., Crystal Springs, Miss.; Reuter Seed Co., New Orleans 9, La.; Associated Seed Growers, Inc., New Haven 2, Conn.; Ferry-Morse Seed Co., Detroit, Mich.; Charter Seed Co., Twin Falls, Idaho; Joseph Harris Co., Rochester 11, N.Y.; Eastern States Exchange, West Springfield, Mass.; T & T Seeds, Grand Forks, N.D.

AMERICAN VEGETABLE GROWER

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## VAPAM® cleans your soil...helps build your profits

When you treat your soil with VAPAM soil fumigant, you help your plants grow faster, produce better. That's because you control most soil pests including weeds, nematodes, soil fungi and many soil insects.

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VAPAM is a liquid, easier to apply and safer to use than other soil fumigants. You drench or mix it right into the soil. Special application equipment is not necessary. Covers

are not needed for treated areas. Harmful residues are not left in the soil after the fumigant evaporates.

Use VAPAM for treating soil in vegetable seed beds to increase the stand and vigor of your seedlings. Use it, also, on field soil to reduce weeds and soil pests. Be sure to carefully follow directions on the label.

See your local dealer, or write to the address below for an informative pamphlet.

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®VAPAM is Stauffer Chemical Company's trade-mark (registered in principal countries) for sodium methyl dithiocarbamate, a soil fumigant.

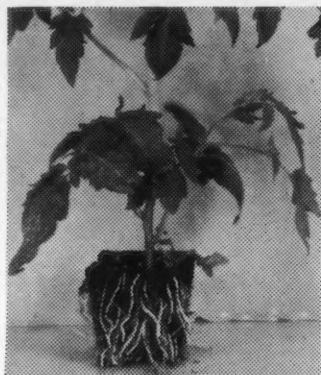
Research, service and products of highest quality have made Stauffer one of America's largest specialists in farm chemicals. Look for and buy Stauffer brand INSECTICIDES, FUNGICIDES, WEED KILLERS, MITICIDES, SEED PROTECTANTS, FUMIGANTS, GROWTH REGULATORS, GRAIN PROTECTANTS, DEFOLIANTS.





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# MULE TRAIN OPERATION

**New York corn grower uses unique harvesting method**

A NEW piece of equipment is being used to harvest sweet corn in Ulster County, New York. Labeled the mule train, it is owned by Henry Paul and loaned to Jack Gill, neighboring sweet corn grower of Hurley. The mule train is strictly a crate operation and Gill markets the greater majority of his 525 acres of sweet corn in this manner.

Paul purchased the specially made apparatus in Florida and had it transported to this area. Since his operation is basically a paper bag marketing set-up, he cannot use the mule train. However, one of his hobbies is mechanical equipment.

Gill claims that the advantage of a mule-train operation is his control in supervising the entire working crew at once. From the time the corn is picked in the field until the crates of corn are loaded on wagons ready for transfer to a truck, Gill can oversee each segment of the operation.

The mule train is 35 feet long and the side elevators extend a total of 45 feet. Corn is fed onto the side elevators by a crew of 12 to 14 pickers who precede the train.

## Even Flow

One man is stationed at the point where the two side elevators meet with the central belt. Nine men are used to pack the corn in crates, 50 ears to a crate. Five workers close the crates with a mechanical tool that facilitates closing and secures the crates firmly. The crates of corn are then put on rollers leading to a wagon attached to the mule train and stacked.

Another wagon driven by a tractor follows alongside the mule train and supplies empty crates to the train.

Over 200 boxes of corn can easily be completed in an hour. The first few days the mule train was in action, numerous problems arose that curtailed productivity. However, as the migrant workers became more familiar with the mule train, the number of crates packed per hour increased. It is expected that at maximum efficiency the mule train should be able to turn out 275 boxes per hour.

The mule train is an awesome sight to those seeing it for the first time but it could become a common piece of equipment.—Bernard Nassau, Hudson Valley Marketing Agent, Kingston, N. Y.



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### As high as 560% increase recorded\*

Significant yield increases have resulted whenever market growers have used GER-PAK Sunlight-resistant Black Mulch Film! Not only that, but crops were improved in size and quality, rotting and weeds were all but eliminated, and certain crops matured earlier for top market value.

Try mulching with GER-PAK film. It's lightweight for easy handling. Inert to soil and chemicals, too. Sunlight- and weather-resistant GER-PAK Black Mulch Film comes in convenient 3 and 4 foot widths, 1000 feet long. You're dollars ahead with GER-PAK, so ask your dealer about the many agricultural uses of GER-PAK Film!

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#### \*YIELDS EXPRESSED AS PER CENT OF THAT OF THE CULTIVATED PLOTS

Crop	Cultivated Plots	Polyethylene Plots
Cucumbers (full season)	100	120
Cucumbers (first 3 pickings)	100	370
Egg Plant	100	560
Lettuce, head	100	297
Muskmelons (full season)	100	239
Muskmelons (first 2 weeks)	100	325
Peppers	100	183
Potatoes (No. 1's) early crop	100	170
Potatoes (No. 1's) late crop	100	102
Radishes (first crop)	100	300
Radishes (second crop)	100	238
Summer squash (full season)	100	133
Summer squash (first week)	100	237
Tomatoes (full season)	100	207
Tomatoes (first 2 weeks)	100	155

From an actual field test conducted in Ithaca, New York.  
Source upon request.



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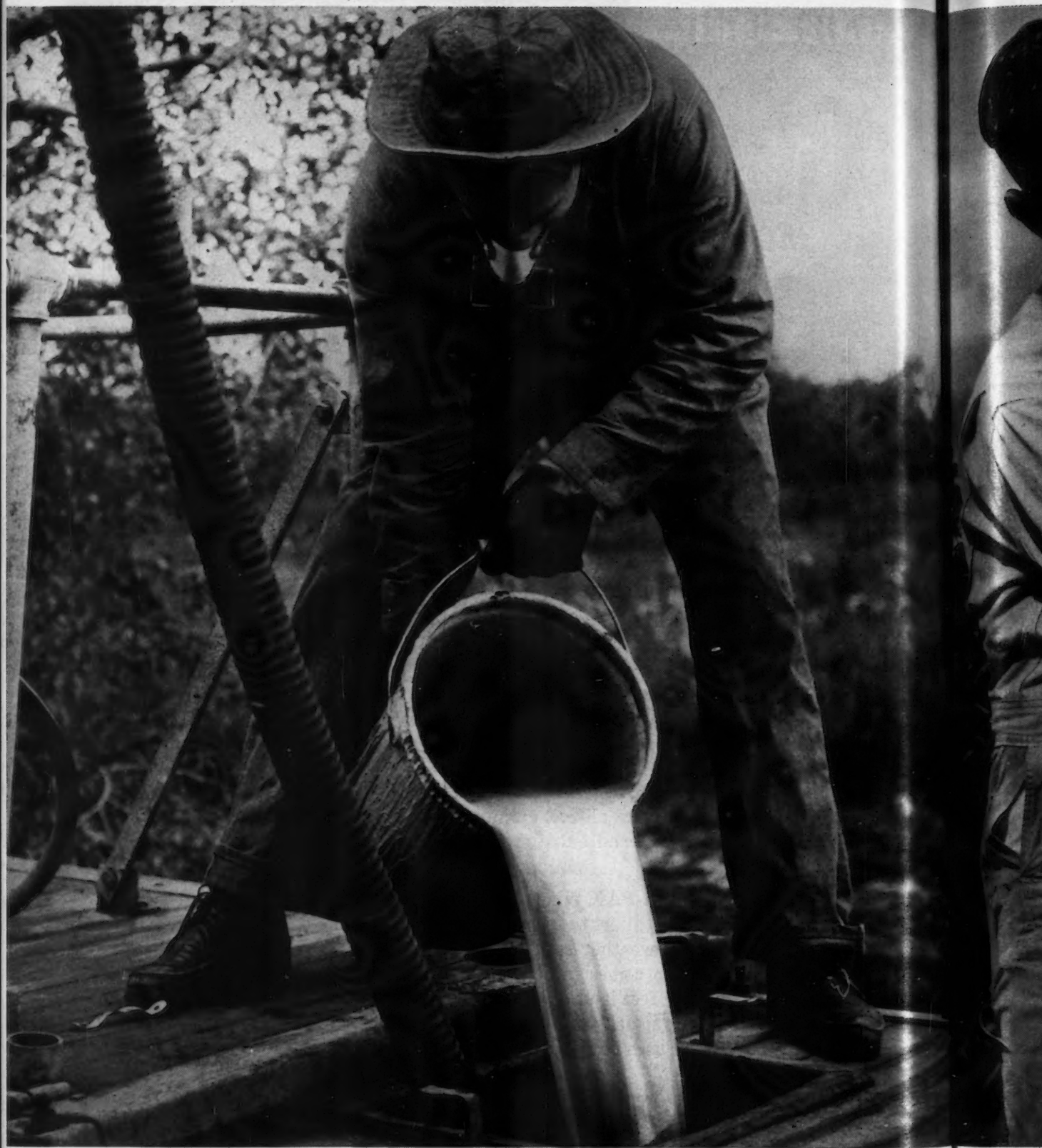
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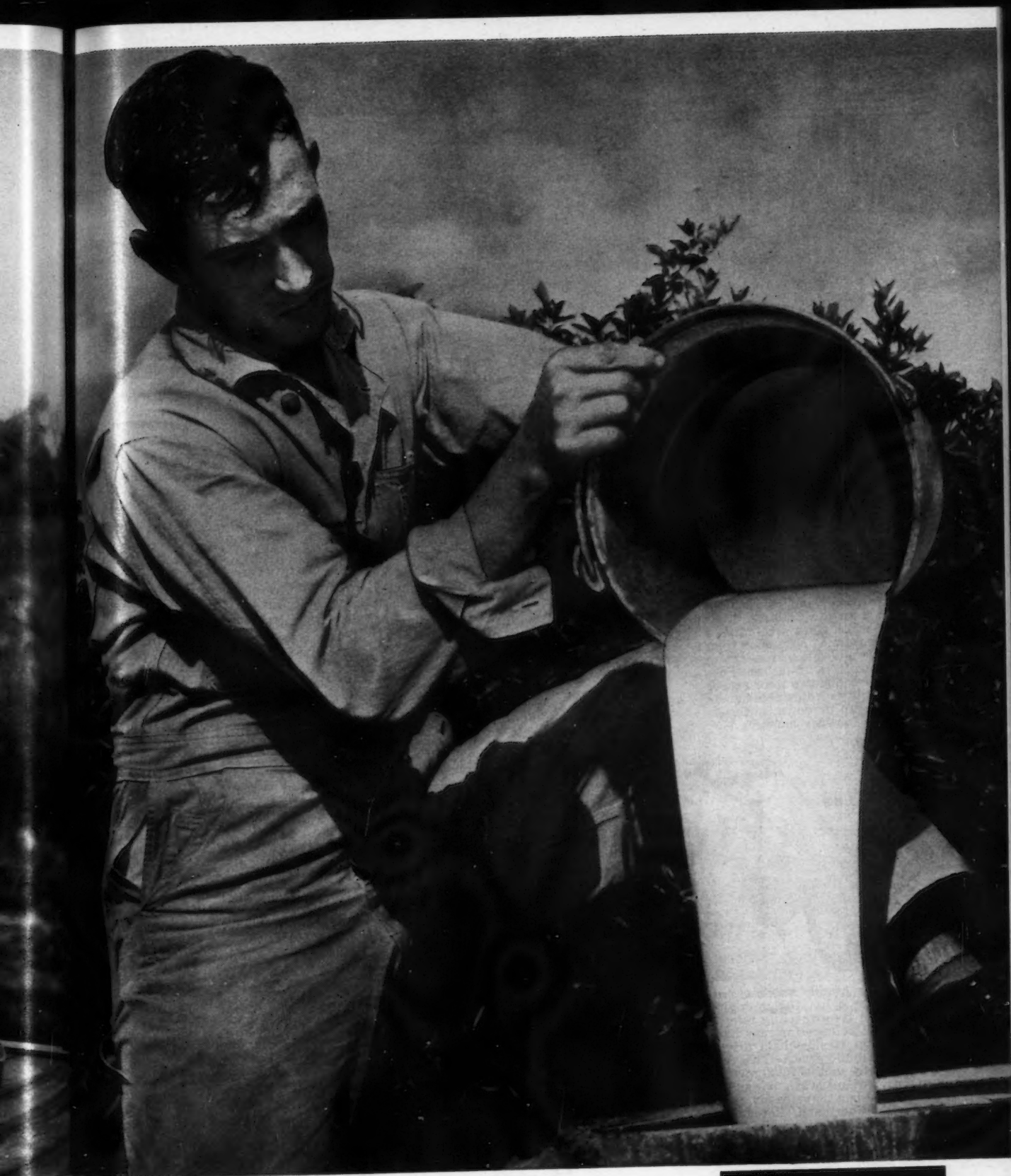
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Both of these men are using powerful phosphates safely the on



safely the one on the right is using malathion





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This husky garden partner features a new 4 hp Kohler engine with simple free-wheeling release and perfect balance for easy handling. Rotor is side-chain driven to till a full 16" swath. Two forward speeds and safety reverse are controlled with a handle-mounted U-bar that's easily operated with either hand. Rotor hood has serrated tail gate and adjustable depth shoe.

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## As It Looks to Me

By JOHN CAREW

Michigan State University

**M**OST tomato growers will tell you that 6 tons per acre of an 8-12-16 fertilizer would literally burn the roots off a tomato crop. But an 80-ton per acre yield was harvested from plants fertilized this heavily in Michigan State University greenhouses. Furthermore, seven commercial greenhouse growers picked crops above 50 tons per acre from greenhouses similarly fertilized.



The greenhouse tomato recommendations of horticulturists S. H. Wittwer and F. G. Teubner have called for exceptionally large quantities of fertilizer. Some growers and experiment station workers have labeled them "fantastic" and "dangerous." Criticism was aimed primarily at the probable salt accumulation in the soil. Unquestionably there was evidence to suggest this possibility. And yet, the program worked in practice.

Soil scientist R. E. Lucas co-operated with Wittwer and Teubner in studying the influence of these high fertilizer applications on the salt and nutrient contents of glasshouse soils. Seven commercial greenhouses were selected where the recommended fertilizer program was in practice. Soil samples were taken every month. An experimental house which had been under the high fertility program for six years was also sampled.

As an average, each grower was applying the equivalent of **5 tons of 10-10-10 per acre**; mostly in the form of manure, 10-52-17 (or 10-50-10) and potassium nitrate, according to the following schedule:

a) **Seedling plants in pots:** One-half ounce of 10-52-17 (or 10-50-10) per gallon of water every seven to 10 days.

b) **At transplanting:** Fertilize with same mixture.

c) **Until plants have 10 to 15 fruit set:** 150 to 200 pounds per acre of 10-52-17 every two weeks.

d) **Until plants have four to five good clusters set:** 75 to 100 pounds of 10-52-17 plus 75 to 100 pounds of potassium nitrate per acre every week.

e) **After plants have 4 or 5 good clusters set:** 150 to 300 pounds per acre of potassium nitrate every week.

Despite these admittedly high rates of fertilizer, the soluble salts content of the soil was lower on July 21 than in March at the beginning of the season and well below the danger point.

The answer to these remarkable results lies in the **kind of fertilizer materials used**. If similar rates of ammonium sulfate, 20% superphosphate, and potassium chloride had been applied, a serious salt problem might have developed. But by using ammonium and potassium phosphates (the ingredients of 10-52-17 and 10-50-10) and potassium nitrate the plants received ample nutrients without a build-up of toxic chloride and sodium salts.

Whether these high rates of fertilizer are always necessary for top yields has not been determined. As everyone knows, the nutrient needs of plants vary considerably with climatic conditions. But the research does show that this commercially successful fertilizer program can be followed without harmful salt effects. It also supports the view that water-soluble starter solution fertilizers are preferred for the production of transplants as well as for greenhouse crops.

### Closer Spaced Tomatoes

Maybe 43,000 tomato plants to the acre is a trifle thick. But Purdue plant breeders Stevenson and Tones are willing to try anything to boost canning crop yields. Their new dwarf varieties have been bred for close spacing and mechanical harvesting. The job is not finished but results are promising.

The trend is toward closer spacing of tomatoes. The Campbell Soup Company and numerous experiment stations, particularly the Cornell station at Geneva, N.Y., have shown that more plants per acre generally means high yields. The old-fashioned planting distances of 6 x 4, 5 x 5, and 5 x 4 are being rapidly replaced by 6 x 2, 6 x 1½, and 5 x 2, and even closer. Early and total yields are almost universally higher with large plant varieties as well as determinate ones. At times, fruit size is slightly smaller.

Fresh-market tomato growers have been more reluctant than canning crop growers to try these close spacings. With adequate disease control spray programs and ample fertilizer, tomatoes for market should benefit similarly. This is especially true where high early market prices are involved.

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3. You can get several times more greenhouse space than with glass for the same cost.

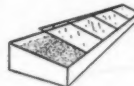


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Cold Frames

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36-in.	13 lbs.	300		36-in.	112 lbs.	3000	
42-in.	15 lbs.	350		42-in.	130 lbs.	3500	
48-in.	17 lbs.	400		48-in.	150 lbs.	4000	

#### PRICES PER SQUARE FOOT

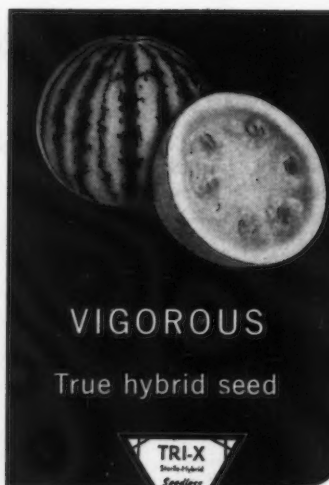
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The praise of TRI-X #317 that we have received in *unsolicited* reports from experienced growers is far better than anything we can tell you about this hybrid. These growers tell us of superb quality and high yield of #317, with brisk demand at good prices. *We suggest that YOU grow TRI-X #317 this year.*

At your seed dealer's or write

## Answering Your QUESTIONS

Don't let your questions go unanswered. Whether large or small, send them with a four-cent stamp for early reply to Questions Editor, AMERICAN VEGETABLE GROWER, Willoughby, Ohio.

#### ALASKAN CABBAGE

I noted with interest the enormous Alaskan cabbages pictured on your August cover. How in the world do they market such big ones?—Ohio.

According to one Alaskan cabbage grower, Max Sherrod, the large cabbages are raised just for exhibition. The ones he sells weigh from 2 to 5 pounds.

#### DISEASE & INSECT-FREE PLANTS

How can I be sure that the tomato and pepper plants I get from the South won't be diseased or carry injurious insects?—New Jersey.

The New Jersey State Board of Agriculture has recently approved regulations governing the movement into New Jersey of vegetable plants from other states. The new requirements specify that all vegetable plants shipped into New Jersey must be certified to have been grown under an official certification program of the state of origin, or must have been inspected not more than three days before removal from the soil, and certified to be free of injurious insects, nematodes, and plant diseases. The regulations will be enforced by the Division of Plant Industry, State Department of Agriculture.

#### ASPARAGUS BULLETIN

Where can I obtain a bulletin or other information on raising asparagus?—Utah.

Check with your county agent or experiment station to see if a bulletin is available or write to the Superintendent of Documents, Government Printing Office, Washington, D. C., and ask for Cat. No. A19: 1646, *Asparagus Culture*. Send 15 cents to cover cost.

#### YELLOW BIG-STEM

I've been looking for plants of the Yellow Big-Stem sweetpotato for some time but without success. Can you help?—New Jersey.

Try Meyer Seed Co., 1-3-5 E. Lombard St., Baltimore 2, Md.

#### STORING IRRIGATION SYSTEM

How is the best way to store an irrigation system for the winter?—North Carolina.

The irrigation pump should be cleaned and lubricated, advises North Carolina State College School of Agriculture. Worn parts should be replaced. Irrigation pipes need not be placed under a shelter, but should have adequate supports to prevent sagging. Removable rubber seal gaskets on irrigation pipes should be cleaned of all mud and dirt. The sprinkler head should be cleaned and checked for wear and damage. Unless the sprinkler head has a lubricating fitting, it should never be greased or oiled. The sprinklers are made of rust-resisting material, and oil or grease will cause the sprinkler head to work improperly.

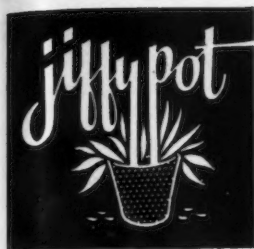
#### HYBRID ONION TRANSPLANTS

Where can I obtain hybrid onion transplants of the varieties Abundance, Brown Beauty, and Fiesta?—South Dakota.

From Dr. Bruce A. Perry, Winter Garden Agricultural Experiment Station, Star Route, Crystal City, Tex.

AMERICAN VEGETABLE GROWER





Growers Who Use

**Jiffy-Pots®**  
MADE OF PEAT

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## EARLIER PRODUCTION

Roots grow right through Jiffy-Pot walls—you plant into the field “pot and all”. Young plants suffer no transplant shock, become quickly established, start to produce up to three weeks earlier.

## GREATER YIELDS

Controlled field trials in Northern Illinois of Tomatoes and Cucumbers have shown that Jiffy-Potted plants have outyielded bare root or field-seeded plants, in some cases by substantial margins. Similar reports have been received from commercial growers in many other sections of the country—not only in regards to Tomatoes and Cucumbers, but also Melons, Peppers, Egg-plants and other vegetables. Send for a detailed report.

## MORE UNIFORM CROPS

With Jiffies the crop is increased and evened out—all the feeding roots are saved, ready to go to work an hour after plants are in the ground. Jiffy-Pots eliminate any replanting due to poor germination of direct-seeded vegetables or to loss of tender seedlings from unseasonal cold spells—reduce field hazards such as insects or weeds because Jiffy-Potted plants are larger when set out—permit earlier cultivating without danger to the plants.



TOMATOES



CUCUMBERS



PEPPERS

## GREATER PROFITS !!!



SEND FOR  
FREE  
SAMPLES

### ROUND SHORTIES

#### No. 330. NEW! 3-in. Shorty

2 1/2 ins. deep.	Per 1000
1500 to 9000 (1500, \$19.50)	\$13.00
10,500 to 49,500	12.00
51,000 up	10.75

Sold in cases of 1500, 33 lbs. per case.  
Minimum order 1500.

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3 ins. deep.	Per 1000
1000 to 6000	\$18.25
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Sold in cases of 1000, 35 lbs. per case.  
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### ROUND STANDARD

#### No. 115. NEW! 1 1/2-in. Round

1 1/2 ins. deep.	Per 1000
3000 to 18,000 (3000, \$17.70)	\$5.90
21,000 to 72,000	5.40
75,000 up	4.90

Sold in cases of 3000, 18 lbs. per case.  
Minimum order 3000.

#### No. 122. 2 1/4-in. Round

2 1/4 ins. deep.	Per 1000
3000 to 18,000 (3000, \$21.75)	\$7.25
21,000 to 72,000	6.75
75,000 up	6.25

Sold in cases of 3000, 35 lbs. per case.  
Minimum order 3000.

#### No. 130. 3-in. Round

3 ins. deep.	Per 1000
1500 to 9000 (1500, \$19.88)	\$13.25
10,500 to 49,500	12.25
51,000 up	11.00

Sold in cases of 1500, 35 lbs. per case.  
Minimum order 1500.

### SQUARE

#### No. 222. NEW! 2 1/4-in. Square

2 1/4 ins. deep.	Per 1000
2500 to 17,500 (2500, \$18.75)	\$7.50
20,000 to 72,500	7.00
75,000 up	6.50

Sold in cases of 2500, 35 lbs. per case.  
Minimum order 2500.

#### No. 230. NEW! 3-in. Square

3 ins. deep. Available February 15.	Per 1000
1000 to 9000	\$14.50
10,000 to 49,000	13.25
50,000 up	12.00

Sold in cases of 1000, 35 lbs. per case.  
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PRICES PREPAID on 150 lbs. or More—Prompt Shipment from 8 Different Shipping Points. Prices NET. PREPAID in lots of 150 lbs. or more anywhere in the continental United States excluding Alaska. Otherwise F.O.B. West Chicago; Bayonne, N.J.; Allentown, Pa.; Toledo, Ohio; Houston, Tex.; Los Angeles, San Francisco, Calif.; Portland, Ore.

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"...realized \$34 more per acre!"

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Litchfield Road  
Hudson, N. H.



## TRANSISTORIZED SOIL MOISTURE METER

The BN-2 Moisture Meter tells you when to irrigate...and how much! Eliminate guess-work and measure available moisture at the all-important root level.

Accurate and simple to use...bury gypsum soil blocks at root level...connect soil block wires to moisture meter...press the button and at a glance the meter tells you how much soil moisture is available for proper plant growth.

Saves you money in water usage, pumping costs, and prevents leaching of soluble plant foods. Will pay for itself the first year.

BN-2 Meter complete with neck strap and batteries . . . . **\$92.00**  
Gypsum Soil Blocks with wire leads **\$2.20 ea.**

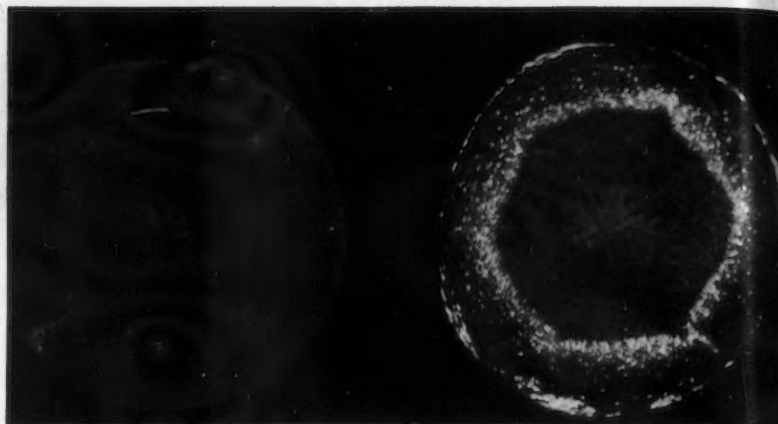
**Industrial Instruments, Inc.**  
Department MM-1A  
89 Commerce Road,  
Cedar Grove, N. J.

SEND COMPLETE DESCRIPTIVE INFORMATION  
AND NAME OF NEAREST LOCAL DEALER.

Name:.....

Address:.....

City:.....State:.....



Cross section of carrot roots: Left—Normal atmosphere, no bitterness or fluorescence. Right—Apple gas atmosphere causes bitterness which fluoresces under ultraviolet light.

## BITTERNESS IN CARROTS

Incompatibility of apples and carrots in storage  
led to discovery of cause of bitter flavor in carrots

By R. L. CAROLUS and J. E. ELLS  
*Michigan State University*

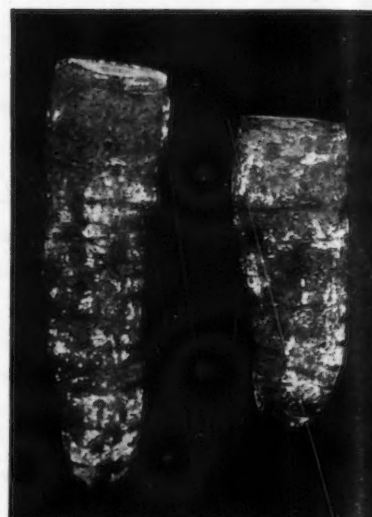
**H**ARVESTED fruits and vegetables differ from most other food products; they remain alive and so undergo changes that alter both their edible and nutritional qualities. Fortunately, if they are held during storage and marketing at suitably low temperatures to slow their rate of living, chemical composition is but slightly altered and they retain most of their "garden fresh" quality.

Carrots stored and marketed at 31° to 32° F. and 90 to 98% relative humidity have generally been maintained in excellent edible quality. In fact, experiments have shown that both sweetness and color may increase in carrots stored for two or three months. Growers also have observed that carrots overwintered in the field with snow cover preventing freezing injury were sweeter and better colored in the spring than they had been the previous fall.

### Processors Note Flavor

Bitterness in stored carrots was first reported by quality-conscious processors from several sections of the country six or eight years ago. At first it was thought that this trouble might be related to either green shoulders on the roots, a nutritional deficiency in the soil, oil sprays used in weed control, or to an infection with aster yellows, a virus disease.

While any of these conditions may cause either an "off flavor" or poor quality in carrot roots, they were generally definitely eliminated as being the direct cause for the quinine-like



Fluorescence on the surface of bitter carrots.

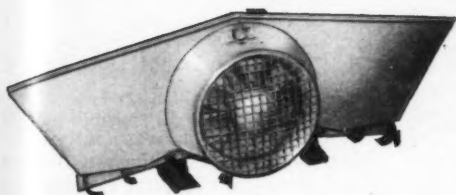
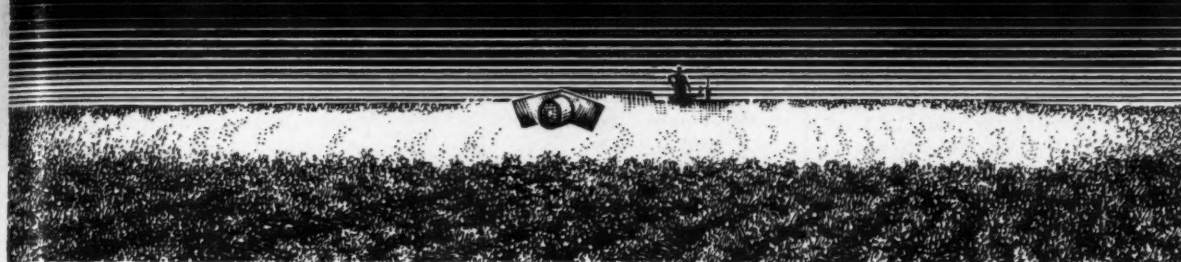
bitterness that was becoming increasingly prevalent in stored carrots.

Biochemists soon isolated minute quantities of a substance from carrot roots that upon concentration resulted in an extremely bitter, white crystalline compound. The Beech Nut Packing Co. developed a quantitative chemical test for bitterness in carrot roots, and a little later New York Agricultural Experiment Station identified the chemical as "iso-coumarin". Still the problem of what caused the changes to take place in the carrot root that resulted in the synthesis of the bitter compound was not determined. Thousands of dollars worth of stored carrots were being discarded annually.

(Continued on page 40)

AMERICAN VEGETABLE GROWER

**Sure you can pay  
\$2,000 more—But why?**



## **BESLER POWER PACKAGE**

### **for air-blast row crop spraying**

A complete air blast sprayer, less tank and trailer. Equipment proven for a dozen years, on thousands of acres.

Attached in less than a day to your old tank and trailer, or to one you make or can buy.

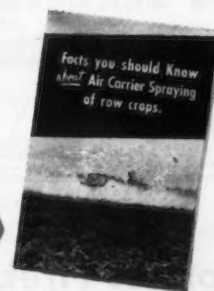
### **YOU'RE WAY AHEAD WITH THE BIG SPREAD!**

The Power Package covers up to 80 feet in a swath, cuts your refilling time up to 75%, covers your crops thoroughly and does not waste material. One-man operation. Up to 240 acres a day!

*Dealers and Distributors wanted.*

**FREE!** Authoritative booklet,

"What You Should Know About Air Carrier Spraying of Row Crops".



"We obtained very satisfactory results this past season. We have found that on potatoes we can cover more than 6 rows each side (12 rows total) and obtain thorough coverage."

Heeney Bros., Ltd.  
New Zealand



"I looked them all over before deciding on a Besler Row Crop Power Package. It does a thorough, clean job, saves time, and gets away from a cumbersome row crop boom."

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Freehold, New Jersey

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Please send me the informative booklet, "What You Should Know About Air Carrier Spraying of Row Crops", and also information on the Power Package.

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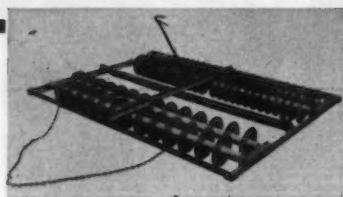
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It's a harrow, roller and leveler combined that will give you a really fine, smooth seed bed. And the Simons Harrow is built for high speed and hard use.

It's adjustable to exactly suit your soil. Available in 4-5-6-7-8-9-10-11-12 ft. widths.

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THE ACTIVO PROCESS, Bridgeton 49, Ind.

## ZON SCARECROW

Positive protection. Uses carbide or acetylene. No pilot. Retail \$59.50. (Dealerships available)

B. M. LAWRENCE & CO.  
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## Beet Holmes Fireball

Highly successful market beet. Roots are smooth and globe shape, with small tap root. Interior color is solid, deep red color. Excellent texture and flavor. Tops are short 10 to 12 inches. We urge you to try HOLMES FIREBALL.

¼ lb. 70¢; 1 lb. \$1.85;  
5 lbs. or more \$1.75 per lb.

**Holmes** Seed Company  
1017 Ninth St. S.W.  
CANTON, OHIO

Write for our MARKET GARDENERS  
and FLORISTS' WHOLESALE CATALOG

## BITTER CARROTS

(Continued from page 38)

Working in Michigan, in co-operation with Gerber Products Co., Paul Bessey found that carrots from storages containing apples frequently became bitter. He correctly surmised that apples might in some way be responsible for the trouble.

### Ethylene the Culprit

During the past year, carefully controlled experiments have shown that the air which passed over apples and then over carrots predisposed the carrot roots to become bitter in several weeks. Substituting minute quantities of ethylene gas for apple gases in the atmosphere passing over carrots also produced the bitterness. A concentration of .01% ethylene gas in the atmosphere in contact with carrots for as short a time as one day resulted in a chemically detectable bitterness in the roots in two weeks, which in four more weeks increased to a content that made the roots inedible.

Exhaust gases from gasoline engines contain some ethylene. The effect of these gases on carrots was investigated and it was found that they too promote the development of bitterness.

### Compound Fluoresces

During the investigations, it was found that the bitter compound synthesized in the carrot root fluoresced when exposed to ultraviolet light of a certain wave length. In the initial development of bitterness, the fluorescence is observed as small, circular, yellowish-white spots just outside the core of a cross-sectioned root. In certain cases, the bitter compound evidently diffuses to the surface of the root where it can be readily observed with the aid of ultraviolet light. The fortunate discovery that the bitter iso-coumarin can be observed by fluorescence in its early stages of development, before it can be detected by taste, will make it possible to evaluate carrots in storage and salvage those that fluoresce before they become inedible.

Plant breeders have become interested in obtaining carrots that are resistant to the development of bitterness, and are using fluorescence of roots stored with apples as a technique for eliminating susceptible lines.

There is little chance for gaseous contaminants in the atmosphere of modern storages to be naturally absorbed or dissipated. To reduce the hazard of ethylene, and possibly some other gas form impairing carrot quality, careful attention must be

given to the products stored with carrots and to the operation of machinery that might contaminate the storage atmosphere. The possibility of using bromide impregnated charcoal to remove contaminating gases from the atmosphere has been suggested.

### Frustrated Carrot

It appears that this trouble has arisen due to the use of modern storage facilities which have so frustrated the carrot's natural storage life that it becomes bitter. Storing carrots by old-fashioned methods in bank storages or in mounds covered with straw and soil perhaps resulted in a happier, more contented storage life for the carrot. So it now becomes necessary to determine what is needed to insure as quiet and restful a storage life as possible for the carrot so that it will be as sweet or sweeter when it comes out. When this is done, an increase in carrot consumption can be predicted.

THE END.

## AUTOMATIC IRRIGATION

ANOTHER step in the automation of the farm was introduced when the John Bean Division of Food Machinery and Chemical Corporation demonstrated an automatic sprinkler irrigation system on a 20-acre potato crop of the John and Alex Kochergen Farm near Huron, Calif.

Called Shur-Rane "Sequa-Matic" irrigation, the new system offers the first practical means of automatically supplying a crop with its exact moisture requirement throughout its life cycle.

The system uses a main supply line and multiple lateral lines made up of 1¼-inch aluminum tubing, to form a solid grid type of installation with pressure actuated valves and sprinkler outlets at designated intervals. The system is operated by the automatic regulation of water pressure at timed intervals as set on an electronic timer.



Alex Kochergen, co-owner, and Olen Sullivan, ranch foreman, of the John and Alex Kochergen Farm check their Shur-Rane "Sequence Timer".

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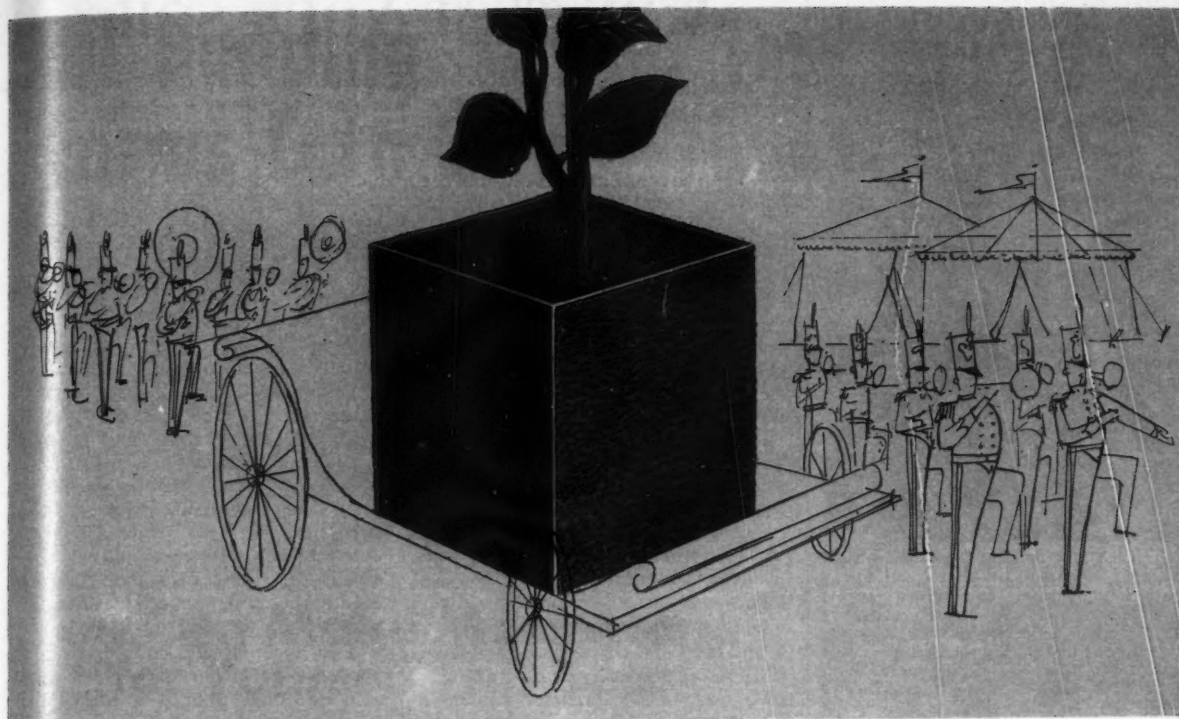
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## Jump on the **BIRD** VITA-BAND WAGON

*Still the most economical growing container*

Pile up premium profits with Bird Vita-Bands . . . through economy in growing, top selling prices, and low, low initial cost.

You save on labor because Bird Vita-Bands are easy to set up and fill with soil quickly. They retain moisture to reduce watering time.

And they take less space than tapered pots, fit snugly together, yet allow plenty of room for top growth.

You get premium prices because you get premium plants. Bird Vita-Bands eliminate transplant shock

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Vita-Bands make handy retail containers. And they fit into Bird Gro-Tainers® to help you make volume sales.

Bird Vita-Bands are available in 8 sizes. Average price on popular sizes is less than half-a-cent each. So get on the Bird Vita-Band Wagon for premium profits — order from your distributor or send coupon for prices and complete information.

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Introduced first time on a national basis in 1957. Resistant to downy mildew. Extra long, slender, dark green fancy fruits. Few crooks and culls. High yielding, better than F1 hybrids under some conditions. Earlier than Marketer. New catalog lists 87 selected strains of leading vegetables. Satisfied customers in 48 states. FREE CATALOG now ready for COMMERCIAL GROWERS.

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**LIGHT and  
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Put it where you need it!

**STANDARD LITEMATE** sectional roller conveyors are ideal for "spot" loading and unloading jobs — can be quickly, easily moved wherever desired. They handle all types of commodities up to 80 lbs. and operate at grades as little as 1/4 in. to 3/4 in. per ft. Available in 10-ft. and 5-ft. straight sections and 90° and 45° curves; with interchangeable spacing of rollers on 1 1/2 in. through 12 in. centers. Write Dept. S-2, for Bulletin 63-B.

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## WHY TEST YOUR SOIL?

An analysis can point the way  
to profitable use of fertilizer

**A**MERICAN vegetable growers are turning more and more to the use of fertilizers for higher yields. A one-third increase in crop production in the United States is due to the use of fertilizers, point out USDA authorities.

Growers produced 44% more crops in 1952 than the average for the same acreage during the base period of 1935-39. What's more, they did this with 17% less labor. The yield increase is attributed to the use of 274% more fertilizer, along with 84% more power and improved production practices.

Although investments in fertilizers pay a high net return on most farms, growers are still losing millions of dollars each year in wasted fertilizers by failing to test their soil.

Soil tests show the plant-food needs of the soil and suggest the grade or grades of mixed fertilizer and nitrogen to buy. They indicate proper time and method of application as well as whether lime is needed. Unless the soil pH is 5.5 to 6.5, the greatest efficiency possible will not be realized from the fertilizer application. Soil acidity, alkalinity, or saline conditions also can be detected.

Results of soil tests and the known general response by crops on that soil in the past can serve as a guide to the rate and kind of fertilizing program to follow. Other factors to consider in establishing rates are whether manure or soil-improving crops are used and whether an optimum moisture supply can be maintained. The nutrient requirements of the specific vegetable to be grown also should be taken into account. The season of the year will affect nutrient availability.

Taking the samples is important in soil testing. A uniform, typical site should be chosen within a single soil area of 5 to 10 acres which is confined to one crop or bounded by a fence or some such line. Samples should be taken in a stratified random design or a zigzag fashion.

For a composite sample, 10 to 20 borings—cores or slices—of equal volume of soil should be mixed thoroughly and 1 pint saved from the mixture for testing. The boring should be obtained by digging a hole with a soil tube, spade, trowel, or auger as deep as the plow-layer and a uniform slice taken of the vertical wall of the hole not more than 1/2-inch thick.

THE END.

## VEGETABLES UNDER CONTRACT

(Continued from page 15)

as much as \$250 an acre income by the bag as against \$40 an acre selling the crop in the field. He had an unfortunate break last year. He had 40 acres of onions which were ready for harvest and was made a good offer for the field. He elected to hold and watched a rain set in the next morning which ruined his crop.

Miller likes the New York and Chicago markets best for his onions, markets to which his present contractor sends the crop.

Miller has two points of advice for vegetable growers who are thinking of teaming up to produce a large enough volume to make a satisfactory contract with a buyer. "Plant a vegetable crop that is adapted to your area," he cautions. "Then tie up with a reliable contractor who has an established market."

C. M. Laird, in Matagorda County, is growing carrots for the first time under contract. Like most Texas growers, his contract is with one of the firms whose headquarters are in the Lower Rio Grande Valley. His

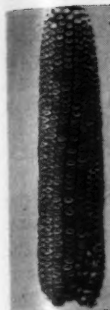
carrots will finally enter the bins of a large soup company.

Terms of Laird's contract call for an advance of \$10 an acre at planting time plus \$2.25 for seed. Seed is furnished by the contractor for \$1.50 a pound and planting rate is 1 1/2 pounds an acre. A special type of planter which will plant two 11-inch bands on 40-inch rows is furnished by the contractor. Another year, Laird expects to plant in 24-inch rows.

The contract provides for selling the crop at \$10 a ton for carrots from 1 1/8 inches up. Carrots ranging in size from 7/8 to 1 1/8 inches take a 10% penalty.

At a meeting of Knox County growers, up near the Red River line in North Texas, contracts were signed for 400 acres of cucumbers, another popular vegetable grown under contract in Texas. "Under the same type of contract last year," explains County Agricultural Agent Roy England, "farmers netted \$110 an acre." Other crops planted by Knox County growers included 100 acres of onions, 100

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**CORN**  
Lack of right  
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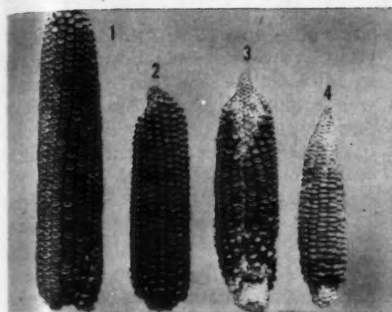
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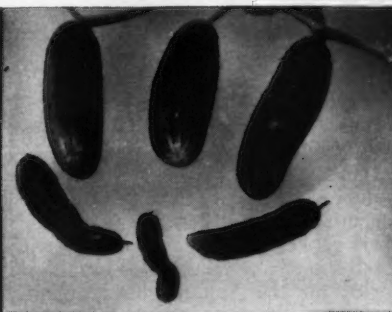


# Soil Building by Soil Testing Makes Farms Earn 2 to 3 Times As Much



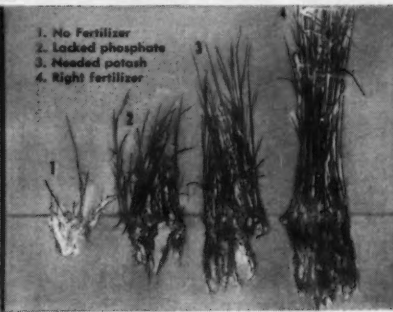
**CORN, POTATOES, ROW CROPS**

Lack of right fertilizer cuts profits. Ear (1) was grown on balanced soil. Stunted ears came from depleted soil; (2) lacked nitrogen; (3) needed phosphate; (4) was potash starved, which also causes stalk rot and lodging. Prevent waste like this.



**VEGETABLE AND FRUIT CROPS**

Cucumbers at top grown in soil fertilized to fit Sudbury Soil Test; 3 at bottom harvested at same time from plants grown without following the tests. Get much bigger crops, more fancy grade, ready for earlier harvest to catch highest market prices.



1. No Fertilizer  
2. Lacked phosphate  
3. Needed potash  
4. Right fertilizer

**GRAINS, LEGUMES, PASTURE, MILK**

Leading ag college increased wheat yield tenfold with right fertilizer. Note vigorous No. 4. Lacking phosphate or potash, yield dropped 40%. Correct fertilizing means bulging granaries, fuller hay barns, fatter cattle, more milk, bigger bank accounts.

## You Can Make More Money for Yourself This Year

**GET** much higher income per acre than the average grower, and greatly increased revenue from your crops under glass. Plants like people are backward in their growth unless they get a balanced diet — even if only one nutrient is short or missing. Higher yields and better quality are the secrets for more money on truck crops. The Sudbury Soil Test Kit tells you how — and improves your land at the same time.

### More Cash per Acre

You'll get back up to \$15.00 in extra yield for every \$1.00 of fertilizer your kit shows you need. It takes a big share of the crop just to meet your costs — so the more extra harvest you get by soil testing, the more money you make! Just the first day's use will pay for your Kit many times over.

Soil testing puts you on the road to record yields of higher quality produce — you'll have more fancy grade, ready for earlier harvest when market prices are highest.

### — and Save Money on Fertilizer

Yes, you save money too! Without realizing it you can lose much more than \$10.00 an acre using the wrong kinds of fertilizer. Guessing wastes both time and money — may do your crops more harm than good.

Profit from the experience of the grower who guessed he needed to spend \$500 for lime but soil tests showed he didn't. That \$500 paid for phosphate he really needed.

### Easy as Reading a Thermometer

#### NO KNOWLEDGE OF CHEMISTRY NEEDED

Even your first tests will be accurate. Use anytime, anywhere, in greenhouses, even out in the fields. No waiting for reports — you get your answers right away. Takes only 10 minutes, costs less than 10¢ a test.

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Shows right amounts of nitrogen, phosphate, and potash for each field. Also whether lime is needed (pH) and how much. Easy instructions list needs for 225 different crops. **Same low price, only \$29.95.**

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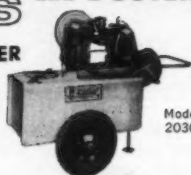
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acres of cabbage, and 950 acres of potatoes.

A vegetable contracting firm, located at Pharr in the Lower Rio Grande Valley, has made contracts with vegetable growers in Lamb County, near the New Mexico line, for about 1000 acres of vegetables. The firm agreed to send a representative to Lamb County to supervise growing of vegetables and in addition, will furnish seed, plus labor and facilities for harvesting and packing the crops. Each grower will be paid as his vegetables are sold.

The most popular vegetable grown under contract in east Texas is the cucumber for pickles. Here, the canner generally makes contracts with the growers, offering only a minimum price for the product. Occasionally, watermelons are grown under contract, but this is still experimental.

Vegetable growers in the Lower Rio Grande Valley are more speculative and generally prefer to play the fresh vegetable market. Cannors take what is left from the fresh market, sometimes getting poor quality. There is some interest in growing vegetables specifically for the canner market in the valley which will do much to increase the quality of the pack.

Vegetable growing in the High Plains of Texas has taken a big spurt in recent years. There were about 10,000 acres in vegetables in 1954. By 1958 this figure was 53,000.

Vegetable growers in many sections of Texas are organizing, generally by counties or by communities within the county. The Santa Fe Railroad is stressing associations of farmers for vegetable growing along its lines.

Other associations are organized under the leadership of county agricultural agents. The Dell City Vegetable Growers Association, operating in Hudspeth County in west Texas, was organized in 1957 and built a packing and crating shed at a cost of \$23,000. After one year, with little operation of the shed, a balance of only \$10,000 is still due. Stock in the association was sold for \$5 a share.

Most popular vegetables in the Dell City area are onions and tomatoes with about 500 acres being grown last year. The association makes contracts with the buyers.

There are four different methods of contract farming of vegetables:

1) The processor puts some money into the crop, then processes and markets it for a percentage.

2) The processor signs marketing agreements with the growers to sell the products on a commission basis.

3) The processor agrees to pay a definite price for the products to be processed.

4) The contractor furnishes a field man but puts no money into the crop, agreeing to market the crop on a commission basis.

THE END.

### FOR A GREATER VEGETABLE INDUSTRY

**WEBSTER** says: "An organization is a group of persons working for a common cause." How true this statement is in reference to the 50th Anniversary Convention of Vegetable Growers Association of America held in Cleveland, Ohio, in early December.

To the growers who served on the committee, the contributors to the Cleveland Convention fund, the exhibitors who displayed their wares, members of the radio, press, and TV who covered Secretary Benson's keynote address and the other functions, may we say that your efforts and co-operation are deeply appreciated.

The delegates representing our 44 affiliated associates are to be commended for their interest in devoting their time to the resolu-

tions, business meeting, and problems of their association. The registration of members from the states of Washington and Maine, from Florida and Arizona, and from Manitoba, Canada, shows the great distances growers will travel to seek out the fellowship and ideas of other growers and of leading scientists.

The many letters and comments we have received make our humble efforts seem worthwhile. Great accomplishments can be realized by working together. If the vegetable growers continue their co-operative efforts for the common good of their organization, we should enjoy even greater success in the future than we have in the past.

P. B. Ruetenik, 1958 President of VGAA  
C. W. Sanderson, Convention Chairman



Miller-Ertler

VGAA's board of directors for 1959: Left to right, front row: Acting Secretary Mary Hays (Wash., D.C.), Elmer Stiel (Ill.), Vice-President Charles Kreuziger (Wis.), President George DeVries (Ill.), P. B. Ruetenik (Ohio), E. B. Wright, Jr. (Ohio). Back row: Roger Lewis (Mass.), Duane Baldwin (Mich.), William Hauck (Ind.), Kenneth Christensen (Conn.), Harold Fingerhut (Ill.), O. Keith Owen, Jr. (Ind.), E. J. Fleming (Pa.), George C. Pedersen (Fla.)





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<b>.002</b>						
4'2"x200'	8	833	\$6.05	\$5.68	\$5.49	\$5.33
8'4"x200"	16	1667	11.33	10.58	10.20	9.90
12"x200"	23.04	2400	16.32	15.24	14.69	14.26
<b>.004</b>						
3'x100'	5.76	300	4.56	4.30	4.16	4.04
4'x100'	7.68	400	5.75	5.40	5.21	5.06
6'x100"	11.5	600	8.39	7.87	7.59	7.37
8'x100"	15.36	800	10.92	10.20	9.83	9.54
10'x100**†	19.2	1000	13.42	12.51	12.06	11.71
12'x100††	23.04	1200	15.94	14.86	14.32	13.90
14'x100††	26.88	1400	18.48	17.21	16.58	16.10
16'x100††	30.72	1600	21.00	19.56	18.84	18.29
20'x100††	38.4	2000	26.07	24.26	23.36	22.68
24'x100§†	46.1	2400	31.13	28.96	27.87	27.06
28'x100§†	53.8	2800	36.18	33.66	32.39	31.45
32'x100§†	61.4	3200	41.23	38.35	36.90	35.83
40'x100§†	76.8	4000	51.36	47.74	45.94	44.60
<b>.006</b>						
6'x100"	17.3	600	11.85	11.04	10.63	10.32
10'x100**†	28.8	1000	19.75	18.40	17.72	17.20
12'x100††	34.56	1200	23.55	21.92	21.10	20.49
16'x100††	46.08	1600	31.14	28.97	27.89	27.08
20'x100††	57.6	2000	38.73	36.02	34.66	33.65
24'x100§†	69.1	2400	46.31	43.05	41.44	40.23
28'x100§†	80.6	2800	53.91	50.12	48.21	46.81
32'x100§†	92.2	3200	61.49	57.15	54.99	53.39
40'x100§†	115.2	4000	76.68	71.26	68.55	66.55
12"x300†	8.64	300	5.93	5.52	5.32	5.16
18"x300†	12.96	450	8.89	8.28	7.97	7.74

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<b>.0015</b>						
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4'x1000'	28.8	4000	21.20	19.84	19.16	18.60

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## POTATOES

# RESEARCH IN CALIFORNIA

Recent findings revealed during Potato Day at Riverside station

**SEED-PIECE** breakdown is a serious problem in southern California when potatoes are planted during periods of high temperature in summer and fall.

That's what Dr. C. A. Shadbolt told some 100 growers during the first annual Southern California Vegetable Crops Field Day held recently at University of California's Citrus Experiment Station, Riverside. Dr. Shadbolt, who is with the vegetable crops department of the Riverside branch, explained that the basic cause of seed-piece breakdown appears to be a shortage of oxygen in the soil atmosphere.

This condition can be found in poorly aerated soils, Dr. Shadbolt continued. It can also be brought about by any factors which increase the respiration rate of potato seed-pieces, thereby using up the available oxygen in the soil.

Recent experiments have shown that in the case of old seed, cold storage was beneficial, providing the tubers were removed from storage 10 days before planting. Furthermore, whole seed gave better stands than cut seed. On the other hand, if the seed was new, whole seed gave poor results and cold storage was of no advantage. The best results with this type of seed were obtained when cutting was done immediately before planting.

### Use Wet Sacks

If the grower finds it absolutely necessary to cut his potatoes a day or so before planting, covering the cut potatoes with wet sacks was found to have some benefit. No benefit was found in following the practice of dusting the cut pieces with gypsum.

Research described by Dr. Herman Timm, of the Davis campus, showed that the proper spacing for potatoes depends on the variety. For example, White Rose gave the highest yields when spaced 8 to 10 inches, while Kennebec yield was highest with a 6-inch spacing. As to depth of planting, there was little difference between 4- and 6-inch depth, but planting at 8 inches deep definitely reduced the yield.

Timm warned against excessive use of nitrogen, since his tests showed

that this practice tended to lower the specific gravity and hence the quality of the potatoes. Nitrogen at the rate of 120 to 180 pounds per acre gave high yields of good quality. Tests with gibberellic acid showed that treatment of new seed with one part per million solution would hasten emergence. Use of over 5 ppm resulted in abnormal growth and reduced yields.

### Potassium Deficiency

Studies shedding new light on potassium nutrition in potatoes were described by Dr. Kent Tyler, Riverside. Good correlation has been found between soil and plant tissue analysis, but Tyler pointed out that the age of the plants from which the tissue samples were taken was very important.

Plants sampled before blossoming are considered deficient if they contain less than 9% potassium. When the tubers are half developed, deficient plants would contain less than 7%, and as they reach maturity, this critical level would be reduced to 4%. Soils containing less than 100 ppm of exchangeable potassium are definitely deficient and should receive potash fertilizers. Those showing over 200 ppm would be very unlikely to respond to potash application.

A survey of the status of all southern California potato soils in regard to the three major elements was presented by Dr. Oscar Lorenz, chairman of the department of vegetable crops at Riverside. Practically all of these soils require about 150 pounds of nitrogen each season, according to Dr. Lorenz. Many soils should receive annual phosphate applications, and phosphate deficiency is more prevalent in Kern County than in other areas. Potassium deficiency has been encountered in over half the fields in the Santa Maria Valley and on many of the light soils in Kern County.

Dr. J. W. Oswald, plant pathologist from the Berkeley campus, reported that in some cases the black spot problem was connected to potash nutrition and could be reduced with heavy applications of potash fertilizer. He also pointed out that the maturity of the tubers at harvesttime had an important bearing on their susceptibility to black spot.

### Handle Carefully

Dr. Fred Howard, Davis, said his recent findings revealed that the temperature of the tubers at the time they were bruised was very important in determining their susceptibility to black spot. Tubers at 68° F. were much less susceptible than tubers at 32°. He concluded by saying that the best practical recommendation is that

potatoes be possible.

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potatoes be handled as carefully as possible.

An ingenious application of mathematics to plant pathology was announced by Dr. J. B. Kendrick, Jr., of the Riverside campus. A formula based on time, temperature, and humidity has been devised which can be used to determine whether conditions are conducive to an attack of soft rot in potatoes. Soft rot has become more serious since the practice of washing became common, and hot air treatments have been devised to prevent the spread of the disease.

Dr. Lauren Anderson, entomologist from the Riverside campus, reported on the latest control measures against the five most serious insect pests of potatoes in California. These are wireworms, leaf-hoppers, aphids, seed corn maggots, and tuber worm.

Fairly good control measures are available against the first four, but none of the commercially available insecticides has given satisfactory control against tuber worm. Outbreaks of this insect are sporadic. However, it presents difficulties for the research worker.

Farm Advisors David Wright and Otis Harvey reported on a recent market survey they conducted on

eastern markets. The most important problem in the marketing of California potatoes was that of excessive greening in the grocers' displays.

Dr. Mas Yamaguchi, of Davis, said that the increased amount of scrubbing given the tubers in the packing shed, and the increased lighting in markets have tended to aggravate the greening problem in recent years. Dealers need to be impressed with the importance of keeping potatoes in the dark at all times except when they are actually on display.—Thomas M. Little, U. of California, Riverside.

## RAGS TO RICHES

(Continued from page 18)

He believes in fall plowing, and by means of a roto-beater, the straw from his farm is turned back into the soil.

During 1956 he received a trophy from the Rising River Land and Livestock Company for producing the outstanding yield of all crops grown by 15 different tenants on 5000 acres. Longhurst's average yield of potatoes that year was 322 sacks per acre, with 70% grading No. 1's.

Last year he grew 380 acres of

potatoes. By combining two two-row planters to make a four-row planter, he was able to plant 380 acres of potatoes in 20 days.

Starting with practically nothing,

### FEWER WINTER POTATOES

The 1959 production of winter potatoes is forecast at 4,170,000 cwt, according to December 1 reports by USDA Crop Reporting Board. This figure would be 16% below 1958 production of 4,971,000 cwt, but 2% above the 1949-57 average.

Longhurst now has four two-ton International trucks; three Ford pickups; five tractors, including two International, two John Deere, and one Allis Chalmers; and one rented tractor.

He also has all the cultivating machinery needed for potato production, plus the two two-row Iron Age Oliver planters, the two two-row Forbes combines, and a storage cellar which holds 50,000 sacks of potatoes.

By sharing his profits with his employees, he has found that the workers are more satisfied and do a better job in the farming operation.

Longhurst has purchased 100 acres of land and rented another 160. He plans on buying additional acreage until he finally has a good sized farm of his own.

THE END.

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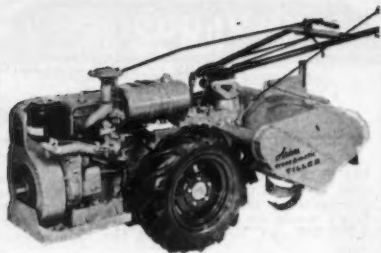
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## GREENHOUSE CROPS

# TRENDS IN PRODUCTION

Marketing figures increase in 20 years; production area decreases

By **ELMER J. MOORE**  
USDA Marketing Research Division

**M**ARKETING of tomatoes, lettuce, cucumbers, and other greenhouse vegetables amounted to about \$9.6 million in 1929 and over \$13 million in 1949.

In 1929, 11% of these vegetables was produced in 11 top-ranking states. By 1949, 95% was produced in the top 11 states.

Ohio was the leading state during this period on the basis of value of production, number of firms, and area under glass devoted to the production of vegetables. Pennsylvania was the leading state for mushrooms.

Considerable changes occurred in greenhouse production and marketing of tomatoes, cucumbers, and other vegetables during the 20-year period, but not so much for lettuce.

Principal changes were: 1) Large decreases in total greenhouse area utilized for the production of vegetables; 2) substantial decreases in number of firms producing these commodities; 3) slight increases in size of

The data presented in this article are the most recent available on the production and marketing of greenhouse-grown vegetables.—Ed.

firms producing vegetables; 4) appreciable shifts in concentrated production areas away from large metropolitan centers; 5) wide shifts in relative importance among the 11 states on the basis of total marketings; and 6) marked increased specialization among producers in the production of horticultural specialties other than vegetables, such as cut flowers and potted plants.

Events of the 20-year period which are associated with changes in the production and marketing of greenhouse-grown vegetables include: the depression of the early 1930's; World War II; the fantastic increase in population, as well as shifts in population to suburbs; development and expansion of the frozen vegetable industry; improved packing, handling, and transporting methods for vegetables; decreased realized net incomes of cut flower growers, which in some instances forced them out of business; and

increasing cost per unit of output—mostly higher labor cost.

Further shifts and changes can be expected to occur because of increased production and marketing of vegetables in highly specialized "winter garden" production areas, such as California, Florida, and Texas.

The rates of decline may not be as rapid near the larger urban centers, such as Cleveland and Milwaukee, as for smaller urban centers, such as Terre Haute and Kansas City which are located closer to the "winter garden" production areas.

## Greenhouse Area Declines

Total area under glass devoted to the production of vegetables in the United States decreased by 50% between 1929 and 1949, while it decreased 52% in the 11 major producing states. The actual decreases were from 53 to 27 million square feet for the U. S. and from 49 to 26 million square feet for the 11 major producing states.

Of the 49 million square feet utilized in the production of vegetables in 1929, 40% was used for tomatoes, 28% for lettuce, 25% for cucumbers, and 7% for other vegetables. Similar data are not available for 1949 and more recent years.

Total number of firms producing vegetables in greenhouses decreased by 62% in both the U.S. and the 11 states between 1929 and 1949. Since 1949, indications are that there have been further declines. For example, the 1954 General Census for Agriculture shows a decline of 21% in the combined number of firms producing vegetables under glass, flower seeds, vegetable plants, bulbs, and mushrooms. The figures are 9492 firms in 1950 and 7456 in 1954. Also, the number of firms producing these products under glass and in the open decreased 25% between 1950 and 1954. The figures are 14,602 firms in 1950 and 11,728 in 1954. But the average size of firms in 1954, compared with 1950, increased by one-third in square feet under glass and by one-half in value of sales.

Wisconsin is the only state which showed an increase in number of firms producing any particular vegetable under glass. This increase was from 37 firms in 1929 to 39 firms in 1949 which produced tomatoes. In general, small-sized firms went out of business between 1929 and 1949.

## Sales Decline

In 1929, total marketings of greenhouse-grown vegetables were \$4.1 million for tomatoes, \$3.2 million for cucumbers, \$1.7 million for lettuce, and \$600,000 for other vegetables, or a total of \$9.6 million.

By 1949, sales were \$10 million for lettuce, \$10 million for other vegetables, \$10 million for spinach, \$10 million for beans, radishes, and other vegetables.

Thus, the percentage of total sales for other vegetables, such as spinach, beans, radishes, and other vegetables, was 10%.

By 1949, the relative production of greenhouse vegetables was 10%.

## TOTAL WHOLESALE

### States

Ohio	.....
Ind.	.....
Mass.	.....
Ill.	.....
Mich.	.....
Pa.	.....
Mo.	.....
Wis.	.....
N.Y.	.....
Iowa	.....
Wash.	.....
Total	.....
Total U.S.	.....

\*Discrepancy

dropped Washington to eleven from four Missouri seventh

## Vegetables

Ohio's production of tomatoes, cucumbers, chusets, vana, V, souri, V, that ord, produc, were: I, Massach, sin. Ab, was pro, Iowa, I, nois, W

Count, in each, product, example, in Ohio, Lucas, Hamilt, Indiana, were V, near T, In Mas, ing cou, ton. A, of the, lettuce, tables, County



By 1949 corresponding figures were \$10 million for tomatoes, \$1.3 million for cucumbers, \$1.4 million for lettuce, and \$300,000 for other vegetables, or a total of \$13 million.

Thus, the only increase in dollar sales was for tomatoes. The largest percentage decrease—50%—was for other vegetables such as rhubarb, spinach, peas, peppers, strawberries, beans, radishes, and water cress.

By 1949 considerable shifting in relative positions of the leading greenhouse states occurred. Oregon

TOTAL WHOLESALE SALES OF VEGETABLES UNDER GLASS				
States	1929 Sales	% of U.S.	1949 Sales	% of U.S.
Ohio .....	\$4,595,227	48	\$7,942,114	61
Ind. ....	857,246	9	1,337,787	10
Mass. ....	820,508	8	759,736	6
Ill. ....	780,014	8	419,261	3
Mich. ....	362,172	4	419,017	3
Pa. ....	459,620	5	294,360	2
Mo. ....	167,732	2	286,304	2
Wis. ....	106,879	1	243,853	2
N.Y. ....	216,668	2	229,996	2
Iowa ....	181,653	2	209,796	2
Wash. ....	262,278	3	189,610	1
Total .....	\$8,809,997	91*	\$12,331,834	95*
Total U.S. ....	\$9,658,672	100	\$13,046,460	100

\*Discrepancy due to rounding.

dropped from the top 11 states. Washington dropped from seventh to eleventh place. Wisconsin jumped from fourteenth to eighth place, and Missouri shifted from tenth to seventh place.

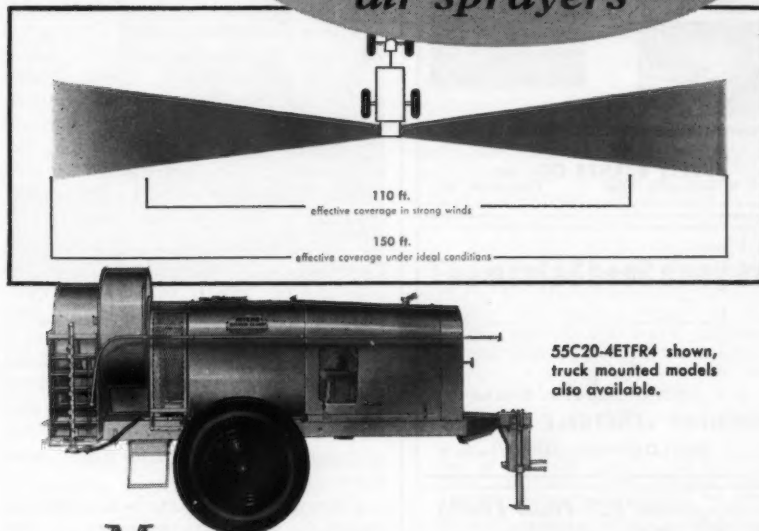
#### Vegetables by States

Ohio was the leader in the production of tomatoes, lettuce, cucumbers, and other vegetables in 1949. For tomatoes, next came Indiana, Massachusetts, Illinois, Michigan, Pennsylvania, Wisconsin, New York, Missouri, Washington, and Oregon, in that order. For lettuce the leading producing states following Ohio were: Indiana, Missouri, Michigan, Massachusetts, Illinois, and Wisconsin. About 90% of the cucumbers was produced in seven states: Ohio, Iowa, Indiana, Massachusetts, Illinois, Washington, and Oregon.

Counties located near large cities in each state were the areas in which production was concentrated. For example, the major production areas in Ohio were Cuyahoga, Lorain, and Lucas counties near Cleveland and Hamilton County near Cincinnati. In Indiana the major producing counties were Vigo and Marion, respectively, near Terre Haute and Indianapolis. In Massachusetts the major producing county was Middlesex near Boston. And for Wisconsin, about 98% of the greenhouse-grown tomatoes, lettuce, cucumbers, and other vegetables was produced in Milwaukee County near Milwaukee. THE END.

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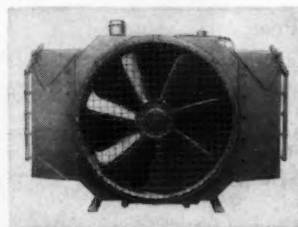


55C20-4ETFR4 shown, truck mounted models also available.

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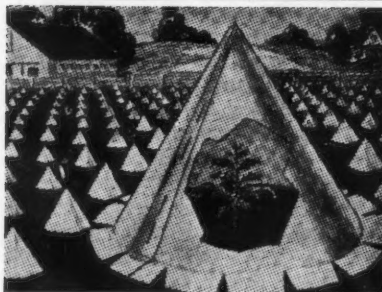


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## Junior Growers' Page

# CONVENTION HIGHLIGHTS

Presentation of awards is feature of annual meeting

**J**OHN Porter, Baldwinville, N. Y., once again stepped into the spotlight of National Junior Vegetable Growers Association activities when he was introduced as the featured speaker at the 24th annual convention in Biloxi, Miss. The Cornell University senior described his experiences as an International Farm Youth Exchange delegate to southern Europe this past summer.

Porter, former NJVGA president, received an achievement award for his outstanding record in NJVGA contests as well as his leadership, participation in civic activities, and personal qualities. This marks the third time the award has been presented to an NJVGA member. He also starred in the National Canners Association film, *The Story of John Porter*.

Presentation of awards to national, regional, and state winners of the various contests was another highlight



Welcoming NJVGA convention delegates is Elaine Lipsey (left), of Prentiss, Mississippi's "Miss Hospitality," with Al Potter, Richland, N.Y., and Frances Edwards, Marksville, La.

a soil test. He also used 6 tons of animal manure per acre.

**Peter C. Ochs**, 18, of Warwick, N. Y., was named national winner of the Fresh Market Section of the 19th annual Production and Marketing Contest. Dr. Norman F. Oebker, University of Illinois, gave the award.

A sophomore at Cornell University, Ochs sold \$3176 worth of sweet corn, tomatoes, and other vegetables grown on 4 3/4 acres. His actual costs were \$873.

Stressing freshness and high quality, Ochs marketed much of what he produced at a roadside stand. Some was sold through wholesale outlets. Display, he said, is a key factor in selling.

His production practices included fertilizing according to the results of a soil test, employing a starter solution, and using a black plastic mulch as well as a complete program of disease and insect control. He irrigated for the first time last year, using an 8 hp pump, 3-inch main line, and 2-inch laterals. He irrigated all of his crops three to six times.

Planting, cultivating, harvesting, and marketing six different varieties of tomatoes paid off handsomely for **James Wormley**, 17, of Oswego, Ill. He received the 1958 national award in the third annual Variety Trials Contest from Adolph R. Junginger, of W. Atlee Burpee Company, co-sponsor of the contest with NJVGA. Last year he was top winner in the Canning Crops Section of the Production and Marketing Contest.

### Six Varieties

Wormley, a member of 4-H Club and FFA, reaped a profit of more than \$3100 from almost 14 acres of

### THREE CONTESTS

NJVGA was founded 24 years ago to promote an educational program of projects and activities for young persons between the ages of 13 and 22. Three contests—Production and Marketing, with Fresh Marketing and Canning sections; Demonstration; and Judging, Grading, and Identification—attract keen competition each year.

of the convention, which was held in December. Some 475 young men and women representing 26 states attended the meeting.

### Grows Peas

National winner in the fourth annual Canning Crops Contest, sponsored jointly by NJVGA and National Canners Association, was **James Junion**, Casco, Wis. Dr. Charles Mahoney, of NCA, presented the award.

The 17-year-old Future Farmers of America member received recognition for growing 12 1/2 acres of green peas. He made about \$550. This profit came not only from the sale of the peas, but also included the value of the vines, which were ensiled as livestock feed.

Pea aphids caused considerable trouble with Junion's project. This called for concentrated spraying with recommended insecticides. Weeds posed additional problems at harvest-time. He fertilized with 200 pounds of a 5-20-20 NPK mixture based on

tomatoes. Toes Wormley, KC-135, 1 Baer, and ceived the on a soil cultural tre They were time.

Results John Baer weighing 3 No. 1's, 2 Rutgers p an average variety ha 2's, and n

First-pla stration C Terre Ha tion was which was Division.

Taking tion Divis Contest w Liggett, o was entitl

Dick placed thi sion with Magic.

The 24 and Ident of identifi

tomatoes. The six varieties of tomatoes Wormley used were KC-146, KC-135, 178, Garden State, John Baer, and Rutgers. All varieties received the same fertilization, based on a soil test, as well as the same cultural treatment and insect control. They were all planted at the same time.

Results of the tests showed the John Baer produced 221 hampers, weighing 31 pounds each, with 74% No. 1's, 24% No. 2's, and 2% culls. Rutgers produced 200 hampers with an average weight of 32 pounds. This variety had 80% No. 1's, 20% No. 2's, and no culls.

First-place winner in the Demonstration Contest was **Sally Sue Boyll**, Terre Haute, Ind., whose presentation was entitled *It's in the Bag*, which was an entry in the Marketing Division.

Taking second place in the Production Division of the Demonstration Contest were **Mary Jeanne** and **John Liggett**, of Terry, Miss. Their entry was entitled *Garden Insect Control*.

**Dick Juhl**, Lakewood, Colo., placed third in the Production Division with his demonstration, *Black Magic*.

The 24th annual Judging, Grading, and Identification Contest consisted of identifying varieties, diseases, in-

sects, grade defects, and weeds, as well as judging carrots, onions, and potatoes for quality and grade.

The top FFA team which won the newly-established National Grange Trophy came from Indiana and chalked up 2,670 points. **David McFarlin**, **Howard Hodge**, and **Don Gehring** were the team members. McFarlin was top individual.



New NJVGA officers are (seated, from left) William Monfort, Jr., Dawson, Ga., president; Ralph Harper, Rochester, N.Y., vice-president; and Kay Hunley, Auburn, Ill., secretary. Regional directors are (standing, from the left) Carole Ann Greene, Huntersville, N.C.; Dick Juhl, Lakewood, Colo.; Peter C. Ochs, Warwick, N.Y., and Bill Lorenz, Chicago Heights, Ill.

The new plaque given by National Committee on Boys and Girls Club Work went to a 4-H team from Indiana. **Judy Hardin**, **Karen Pfen-**

**nig**, and **Nancy Thomas** won with a score of 2561.

### Win Trophy

The highest-scoring team in the open division receiving the Snyder Trophy also came from Indiana. Team members, **John Roose**, **Sandy Karn**, and **Jim Huffman**, achieved a score of 2656 points out of a possible 3000. **Gerald Wentworth**, Kendallville, Ind., was the top individual in this contest. The award was presented by Prof. Grant B. Snyder, University of Massachusetts, national chairman.

Among awards received by all national winners were wrist watches, gold-filled pins and rosette ribbons, an NJVGA jacket, and \$50 in cash. Others who took part in the presentation of awards were Robert W. Paulson, University of Maine, and Leonard C. Gibbs, federal extension service, Washington, D. C.



A bi-monthly page for the younger generation of vegetable growers and their national organization, the National Junior Vegetable Growers Association. For information write Grant B. Snyder, French Hall, University of Massachusetts, Amherst, Mass.

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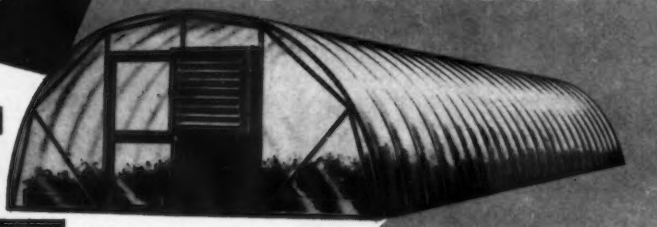
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## CO-OPS JOIN HANDS

Two western Kentucky groups  
combine to market tomatoes

By SIDNEY SNOOK

**S**UCCESSFUL reorganization and a resultant expansion are highlights of the co-operative marketing enterprise of western Kentucky vegetable growers.

Two separate co-operative groups, formed in 1957 to market the region's tomato crop, were combined last year into a single unit for the marketing of a 250,000-pound tomato yield as well as several hundred bushels of a variety of vegetables. The new group, which bears the tongue-twister name of Paducah Area Growers' Co-operative Association, Incorporated, is the successor to West Kentucky Growers' Association and McCracken County Tomato Growers' Association.

Total tomato crop sales, including both co-operative shipment and local market distribution, brought growers more than \$42,000. All co-operative shipments were made by truck, with a total of 13 loads leaving the delivery platform during the shipping period which lasted from the first week in July to the first week in August.

For packaging, the association used 10-pound (8-quart) cardboard Climax boxes for No. 1 grade and 5/9-bushel wirebound wooden crates for No. 2 grade. All shipments were given federal-state inspection.

Prior to opening of the shipping season, growers sold their early production on the local market, with some individual growers reaching the market by June 10. With the local market taken care of, co-operative shipping began from association-planned acreage.

### Expansion Planned

Major emphasis was on the tomato crop last year, but enthusiastic growers have set their sights on an expanded industry to include a wide assortment of vegetables.

Eighty growers in six counties of the district, including McCracken, Ballard, Carlisle, Marshall, Livingston, and Graves, have pledged acreage to the new association. Holdings averaged one acre per grower in line with the recommendation of one-half to two acres, depending upon the available labor supply. Small individual acreage makes tomato production a sort of "family enterprise" without incurring the high labor costs.

The word, "early," is the watchword of the new enterprise with

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FEBRUARY

growers constantly advised that volume and quality must march hand in hand in order to sell the best market. Vine-ripened, staked tomatoes will command a premium price, and picking-to-consumption must be a matter of only two or three days. Their goals are set high—and their tomatoes last year brought top prices for top grades. Tomatoes grading No. 1 and No. 2 were shipped to metropolitan market centers in the North and East.

Plants are ordered from greenhouses in the South about the middle of March and go from cold frames into the field the middle of April. The recommended setting is from 3000 to 3600 plants to the acre in



Members of new Kentucky co-op showing tomatoes ready for shipment. Left to right, kneeling: Clifton McElya, Paul Russell; standing: Francis Gough, Terrell Harris, M. Pryor, A. Otey.

rows spaced 4 feet apart and with plants in the row separated from 3 to 3½ feet. New producers are told that all tomatoes should be staked, pruned, and suckered—pruned to one main stem and tied up with four ties to the stake.

Growers' choice of variety for their co-operative tomato project was the Valiant because of its early maturity, fine color, and satisfactory shipping quality. It produces a smaller-sized fruit of high quality which is believed to meet consumer preference. The crop is marketed in the pre-pink or pink stage.

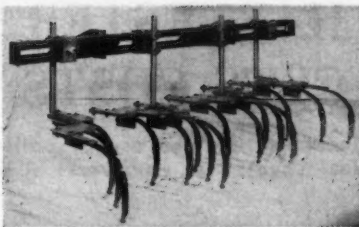
Aside from its tomato shipments—125 tons—the association last year marketed 300 bushels of green beans, egg plant, squash, green peppers, okra, and cucumbers.

Tentative plans for future development include a Wholesale Truckers' Market, which has encouraging support from the Paducah Association of Commerce, with buyers coming direct to the market.

Officers of the new organization are Herman Yopp, president, and Louis Schmidt, secretary-treasurer, serving with a board of five directors: N. L. Peck, Sam Mueller, Noel McElya, Henry Baumer, Jr., and Clifton McElya. Herman Yopp and W. A. Underwood, both of Paducah, act as sales agents.

THE END.

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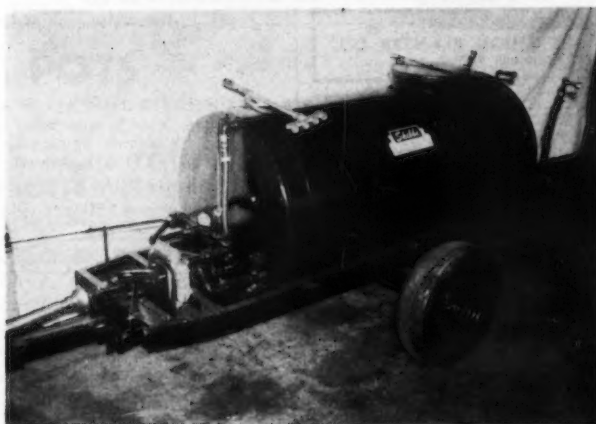
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**E**CONOMY minded food processors, to whom labor means expense, are showing commercial vegetable growers the way to obtain greater production with far less manpower and expense by means of mechanization and bulk handling.

In harvesting and handling green and wax beans, the Rochelle Asparagus Co., Rochelle, Ill., has achieved an over-all harvesting cost saving of 30% from the cost of hand-picking into bags by using bean harvesters and jumbo wirebound pallet bins.

Using three bean harvesting machines, a tractor-mounted fork lift, and a dozen competent workers, they have been able to pick a field of beans clean and efficiently faster and much more economically than it could be done by 200 hand pickers.

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The harvesting machine can be operated by two men, one to drive and the other to handle the beans. Twin discharge chutes at the rear are directed into large wirebound bins each of which holds 550 to 600 pounds of beans and replaces bags which held only 25 pounds each.

Each half of the harvester operates



Tractor-mounted field fork-lift transporter easily lifts wirebound pallet bins to truck.

independently with beans being discharged either to the right or to the left rather than from both sides at the same time. The platform being split, each bin can be tilted downward when it is filled, permitting it to slide gently to the ground while the harvester continues moving.

A fork lift mounted on a tractor places the bins on a truck that shuttles between field and cannery carrying filled bins one way and empty ones the other. At the cannery the beans are transferred to a mechanical dumper from which they travel on a belt past the graders.

While beans for fresh market are often packed in the field, the canners' mechanization and bulk handling methods would be just as appropriate as for a food processing plant. The beans would be packed for shipping after being graded.

THE END.

## GEORGIA

(Continued from page 17)

high of 81,000 acres were grown in 1935 followed by a slow decline to 33,000 acres in 1943 and a gradual increase since then to better than 60,000 acres. Most commercial production is in Areas A and B, and the four leading counties are Brooks, Thomas, Crisp, and Worth.

2) **Tomatoes** are the number two truck crop in terms of acreage. Production of this crop has more than doubled in the last two decades until the present acreage ranges between 12,000 and 14,000 acres. Most production is in Areas A and B with Colquitt, Cook, Mitchell, and Tattnall counties leading in acreage. Rather small but concentrated acreage is grown in Area E in Catoosa, Dade, and Walker counties.

3) **Sweetpotatoes** are produced mostly in Areas A and B but to a considerable extent in certain other counties indicated in Areas C and D. Acreage ranged from 100,000 to 152,000 during the 1930's but has declined sharply since 1943 to the

present level of only 14,000 acres. Many reasons have been given for this decline, including increased disease troubles, high labor cost, and declining per capita consumption.

The greatest change in the character of the sweetpotato industry in Georgia is that there are very few small growers left and not nearly as many families grow them for home use. Present production is mostly by larger, specialized growers and by groups who have organized for centralized storage and marketing facilities. At the present time very few sweetpotatoes are grown for processing.

4) **Cantaloupes** are grown almost entirely in Area A with the exception of small acreages grown for local sale in other sections of the state. The bulk of the crop is sold through state farmers markets at Cordele in Crisp County; Tifton in Tift County; Moultrie in Colquitt County; and Thomasville in Thomas County. These serve not only the county in

which they are grown

5) **Pimientos** are grown entirely for processed areas of Area D. Production is 100 acres annually in pimientos.

**Bell peppers** are grown in the market in and in Area D. (Union County) the red market.

6) **Cucumbers** are grown in Area D. just west of the market in acres of cucumbers in and in some of the market in Area D.

7) **South** about 20,000 acres and about 100 acres in most farm areas. Most points of shipping are in and around the market in Area D.

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which they are located but also surrounding counties. About 9000 acres are grown in Georgia.

5) **Pimiento peppers** are grown entirely for processing in widely scattered areas, mostly in the upper part of Area D but also in Areas A and C. Production is from 15,000 to 20,000 acres annually. Georgia leads the nation in pimiento production.

Bell peppers are grown for fresh market in the lower part of Area A and in Area B. The crop is also grown for processing in Area E (Union County) and is harvested in the red mature stage.

6) **Cucumbers** for pickles are grown mostly in the counties indicated in Area A and several counties just west of this area. About 8000 acres are grown annually. About 1200 acres of cukes are grown for fresh market in Areas B (Tattall County) and in some of the lower tier of counties in Area A.

7) **Southern peas** are grown on about 20,000 acres for fresh market and about 80,000 acres for processing in addition to being grown on most farms for home use. The greatest points of concentration for processing are in Area C and Area A in and around Macon and Turner counties. Many acres are grown for fresh market in Thomas and Brooks counties of Area A.

8) **Okra** has been grown for fresh

market in Georgia for a long time. In recent years it has become an important crop for processing—both for freezing and for use in soup. Over 4000 acres are grown for fresh market and about 3000 acres for processing, mostly in Area A in the counties of Grady, Thomas, Decatur, Macon, Dooly, and Turner, also in Area D in Douglas County near Atlanta.

9) **Leafy vegetables** such as turnip greens, mustard, and collards have long been staples in Georgia diets. These crops are grown for home use in most counties but commercial production for fresh market and processing is mainly in Areas A and E. Over 20,000 acres of these crops are grown commercially and include some kale and spinach as well as the "big three" mentioned above.

10) **Cabbage** is grown mostly in Areas A and E on about 5000 to 6000 acres annually.

11) **Snap beans**, both bush and pole, are grown mostly in areas A and E on about 5000 acres. These are entirely for fresh market with the exception of some Blue Lakes which are grown for processing in Area A and in Decatur County just west of this area.

12) **Lima beans** are grown mostly in Area A except to a limited extent in Area D around Atlanta. About 5000 acres are grown.

13) **Squash** of the summer type

are grown on about 6000 acres mostly in Areas A and C. Some are canned by one or two plants but most of the acreage is for fresh market.

#### ARTICLE ON GIBBERELLIN AVAILABLE

Vegetable growers will be interested in reading an article entitled *The Effects of Gibberellin on Economic Crops* by S. H. Wittwer and M. J. Bukovac, department of horticulture, Michigan State University. Reprints of the article may be obtained by writing for Journal Article No. 2262 from Michigan Agricultural Experiment Station, East Lansing, Mich.

14) **Sweet corn** is gaining in popularity although considerable quantities of roasting ears are still grown for local sales. The main sweet corn counties are Wayne, Tattall, and Toombs in Area B, and Thomas, Mitchell, Brooks, and Ben Hill in Area A. Between 2000 and 3000 acres are grown.

15) **Irish potatoes** are not grown extensively—approximately 5000 acres, mostly in Area E and in Effingham and Chatham counties of Area B.

16) **Onions** are grown commercially on about 1000 acres in Toombs and Tattall counties of Area B.

17) **Lettuce** is produced commercially by a few growers along the Atlantic Coast, mostly in Camden County and to some extent in Bryan and Chatham counties. From 300 to 500 acres are planted. THE END.

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S-1428-A 2 1/4 in. Diameter Round	2,000 to 18,000 20,000 to 74,000 76,000 and over	2000	30 lbs.	\$ 7.25 6.75 6.25
S-1428B 3-in. Diameter Round	1,000 to 9,000 10,000 to 49,000 50,000 and over	1000	24 lbs.	13.25 12.25 11.00
S-1428C 4-in. Diameter Round	500 to 2,000 2,500 to 10,000 11,000 and over	500	27 lbs.	29.25 26.75 25.25
S-1428E 4-in. Diameter Round	500 to 2,000 2,500 to 9,500 10,000 and over	500	25 lbs.	28.75 26.25 24.75
Azalea				

#### VAL-PEAT POTS — SQUARE SIZES

Inside top Dimension of pot	Number of pots	Number pots per Carton	Approx. Wt. of Carton	Price per 1000
S-1428 1 3/4-in. Diameter Square	2,500 to 17,500 20,000 to 70,000 72,500 and over	2500	30 lbs.	\$ 7.00 6.50 6.00
S-1428F 2 1/4-in. Diameter Square	2,000 to 18,000 20,000 to 74,000 76,000 and over	2000	40 lbs.	11.00 10.25 9.50
S-1428D 3-in. Diameter Square	1,000 to 9,000 10,000 to 49,000 50,000 and over	1000	40 lbs.	18.25 17.00 15.25

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For some growing purposes, these lighter weight pots are preferred.

Inside top Dimension of pot	Quantity	pots per Carton	Wt. of Carton	Price per 1000
2 1/4-in. Square No. 10	2,500 to 17,000 20,000 to 72,500 75,000 and over	2500	30 lbs.	\$7.50 7.00 6.50

**NEW**

Inside top Dimension of pot	Quantity	pots per Carton	Wt. of Carton	Price per 1000
3-in. Square No. 10	1,000 to 9,000 10,000 to 49,000 50,000 and over	1000	30 lbs.	\$14.50 13.25 12.00

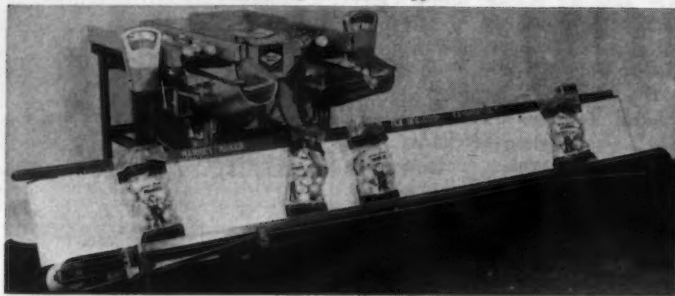
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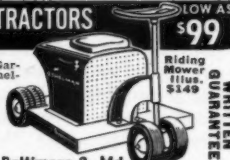
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## Streamlining OUR CROP INFORMATION

Growers need data geared to  
modern marketing programs

By **WILLIAM E. BLACK**

**D**ESPITE increased emphasis and interest in marketing by farm and trade groups, USDA crop information has changed little since 1918.

USDA monthly crop reports furnish estimates on a seasonal or quarterly (spring, summer, fall, winter) basis. The monthly figures are developed by crop estimators in each producing state about the first of each month, forwarded to Washington for crop board review, returned to the states for issue, and reach the grower about the 14th of each month. The initial quarterly figures are given two monthly reviews by the estimators. An annual report is issued in December which gives final estimates of acreage, yield, production, average price, and value. This report is largely historical in value.

Mail questionnaires, from voluntary correspondents, have been and are at present the principal basis for crop information. This method of reporting, though previously adequate for basic storable crops, falls far short of the objectives and accuracy needed by perishable crop growers.

Growers need information which can be translated into pricing and marketing practices sufficiently in advance so that, through good organization and intelligent action, they can improve their lot in the market. Crop information, therefore, must be timely, accurate, and suitable for decision-making. Here are suggestions for improvement:

### What Is Needed

1) Crop information should be a running inventory, rather than a quarterly or seasonal estimate.

2) Crop data should be gathered through full time enumerators rather than mail questionnaires from voluntary correspondents.

3) Enumerators should collect data for smaller areas of production than state wide.

4) Crop data should be geared to crop maturity. Quick-maturing crops need more frequent coverage than long-maturing crops. Crops in areas with extended periods of planting and harvesting need more coverage

(Continued on page 59)

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# 1959

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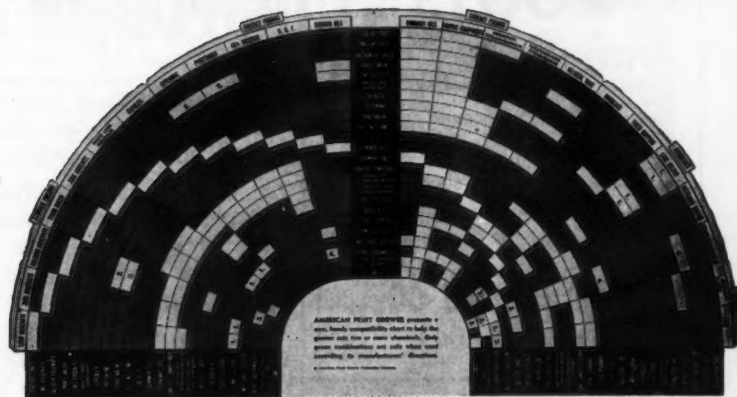
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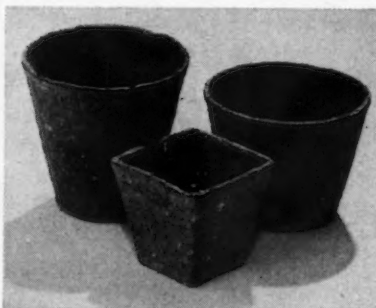
## PLASTIC GREENHOUSE PLANS

Construction details for Cornell University plastic panel greenhouse, names of suppliers of materials, films, and adhesives for plastics, and reprints of current articles on plastic greenhouses are available from **AMERICAN VEGETABLE GROWER**, Willoughby, Ohio, for 50 cents a set.

# New for You

## Round, Square, Any Size

Field trials with peat pots in northern Illinois during the summer of 1958 proved that the vegetables started in them yielded earlier and heavier crops. Vegetable growers from all over the country are confirming this experience. It all means higher profits for you. Jiffy-Pots,



the world's first peat pot, were used in these tests and are now available in eight different sizes with three different shapes to fit your needs. Why not write Charles A. Crownover, Geo. J. Ball, Inc., West Chicago, Ill., for all the facts. Charlie will send you a copy of the report on actual field tests with peat pots. Ball pots are well known and used by leading vegetable growers everywhere.

## An Apology

The new heavy duty tillage tool pictured below was described in the



December issue as having a cutting swath of 50 and 60 feet with mounted models, and 60 and 70 feet with trailer models. Obviously this should have read 50 and 60 inches, and 60 and 70 inches. I hope we did not mislead any of our readers. The ma-

chine does a wonderful job and you should look into it. Write Frank Bauer, Winpower Mfg. Co., Newton, Iowa, for the facts.

## Collapsible Tank

Many are the times we vegetable growers have wanted a tank to haul water for insecticides or liquid fertilizers. Such a tank is now available and after it has been used, it can be collapsed and rolled into a cylinder only 2 feet in diameter. The tank is constructed of nylon fabric coated



with a special synthetic rubber compound. The tank, used by the U.S. Marine Corps and leading oil companies, has been fully tested and can be easily loaded on your flatbed truck or trailer. Write Frank McWilliams, Firestone Tire & Rubber Co., Akron, Ohio, for details.

## The Best

Every vegetable grower knows the importance of shredding soil, manure,



peat, compost, and the like for better yields and better seedbeds. Growers in the Midwest are using the shredder pictured above, and all reports prove that this equipment does a superior job. Made to last and incorporating a new patented shredding mechanism, the machines are ideal for the commercial grower. There is a model for every size operation. Write Frank Lindig, Lindig Mfg. Co., Inc., 1875 West Country Rd. C, St. Paul 13, Minn., for all of the facts.

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## CROP

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## CROP INFORMATION

(Continued from page 56)

than those in areas with short periods.

5) Areas with extended plantings should have week-by-week planting records.

6) Weekly planting records should be followed up with practical objective appraisals of crop condition and development—including continuous temperature and rainfall data.

7) Completeness of planting and harvesting should be indicated.

8) Where the information is gathered weekly, it should be released to the industry weekly, and within two or three days at the week's end.

9) This new information should be released as a separate report for each

This article contributed by Dr. Black includes portions of an editorial which appeared recently in *The Packer*. The author is general manager of Florida Tomato Committee, Orlando.—Ed.

crop. Each report should include all information available to the government and useful to the grower in determining current and prospective supplies.

10) Similar reports should be issued from all competing production areas in the United States.

### Florida Research

Florida tomato growers have long viewed as meaningless the usual "indicated" acreage and production crop data in a program of planned marketing. Consequently, this industry in the spring of 1956 gave \$12,000, matched by equal funds from the Agricultural Marketing Act of 1946, to start research on this problem. Plans were made with the federal-state crop statisticians at Orlando to secure week-by-week records of tomato plantings and crop development by actual enumeration rather than relying upon questionnaire responses from a few growers.

To date, the Florida tomato industry has invested \$38,000 in this project. This, together with \$38,000 of federal matching funds, means that \$76,000 will have been spent on improving Florida tomato crop reporting by July 1, 1959.

This project demonstrated that actual acreage count can be made for each growing area in the state on a weekly basis, and that the industry's interest in the weekly report, which was mailed free of charge to all growers and others requesting it, was high. Since the first issue of this report, most growers have had no interest in the usual crop reports, acreage guides, and similar issues.

Operation of the project is under the direct supervision of the federal-



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state agricultural statistician at Orlando. Three special field enumerators are stationed in the principal tomato producing areas. Each enumerator, through personal contact with growers, learns the number of acres planted or set each week.

This information is then assembled in Orlando, tallied, and published the following Tuesday. A total of 39 weekly reports were issued during the 1956-57 and 45 reports during the 1957-58 planting and harvesting seasons. The first report was issued shortly after the start of planting and the last report near the close of the shipping season.

In addition to the weekly plantings by areas of production, these reports carried temperature (high, low, and mean) and rainfall records in these areas, a narrative report on crop progress and condition, and a table showing current and historical weekly tomato shipments from Florida.

As early as 1947 Florida Fruit and Vegetable Association began compiling and issuing weekly records of celery plantings. These reports prompted Florida celery growers to set up realistic planting schedules that resulted in a more uniform flow of supplies to market. In 1949, this report was shifted from FFVA to the Orlando office of the agricultural statistician. Since then, the report has been issued monthly. The celery industry in Florida was especially suited to this type reporting at minimum effort and cost.

#### Planting Rate Levelled

This new information has tended to level out the rate of planting. The industry now has information by which it can fit supplies to market needs and stabilize prices. It has a better idea of what kind and amount of tomatoes to withhold in order to prevent glutted markets and avoid subsequent wastes in the marketing system. Most important, Florida tomato growers are gaining a better understanding of the tomato crop and marketing, and rely less on rumors and other unreliable reports.

What is needed is for each commodity group to reappraise its crop informational needs. After a decision is reached, the group should notify its congressional delegation and agricultural officials.

THE END.

#### NEW RULING ON ARAMITE

The miticide Aramite (Naugetuck Chemical) will continue to be a useful agricultural chemical despite a ruling by Food and Drug Administration restricting its use on vegetable and fruit crops. Although Aramite is not banned from the market, it must be used in such a manner as to leave zero residue on edible crops after harvest. Naugetuck Chemical advises growers to use the chemical on edible crops only during the early growing season.



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## Confident Leadership

ONE cannot help but be impressed with Secretary of Agriculture Benson. He is not a large man physically, but an air of self-assurance and conviction sets him apart. When he smiles, his face lights up and there is a warmth about him that inspires confidence.

He is a polished speaker and is at his best with the unrehearsed remarks he is fond of making after his scheduled talk is over.

His philosophy embodies his faith in farm people. He was reared on a farm and has been in farm work all of his life. "Farm people are the salt of the earth," is one of his favorite sayings. "I am glad to be counted as one of them," he told vegetable growers during the recent annual convention of Vegetable Growers Association of America.

His fervor and his conviction stem from the fact that he is a deeply patriotic American citizen. "I love this country," he has said on many occasions, and he recommends to his listeners that they spend some time on foreign shores, as he has done, to get a true picture of what our country is like.

The most important word in Benson's platform for a national farm

plan is flexibility. The farmer must be free to meet changing conditions—he must be flexible.

"Flexibility is the answer," says Benson. "And subsidies and controls which stifle flexibility and make the farmer powerless to adjust his business are wrong."

People think that Mr. Benson is against price supports. This is not true. He says, "Price supports, used in a manner that fits today's conditions, can have an important function in agriculture." He is obviously against the kind of rigid price supports which freeze farmers so they cannot change.

Secretary Benson thinks of himself not as a politician but as a farmer. "The farm problem is economic, not political," he says. "We must solve it with good, economic logic; not political logic."

It is fortunate we have a strong man in the cabinet to direct agricultural policy. Here is a man who knows that attention to fundamentals makes a good crop or a sound national farm program and who is not going to be influenced by the force of unfavorable political opinion, no matter how loud or vociferous it may be.

## A Century Of Service To Canada

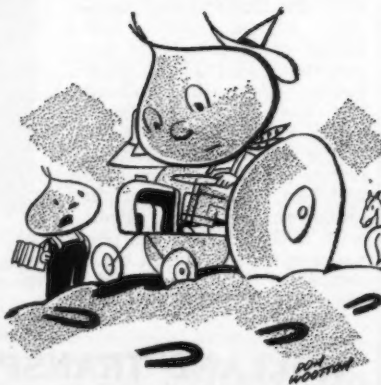
IT isn't often we get the chance to congratulate anybody on their 100th birthday. It's a milestone in the affairs of men which is seldom reached. Therefore, we note with enthusiasm that last month was the 100th anniversary of the Ontario Fruit and Vegetable Growers Association.

The Canadian organization of growers is unique because despite the diverse number of crops it covers it still is able to provide a service and accomplish an objective for the growers it represents, no matter whether they are apple or pear growers, tomato or bean growers. Money, the lifeblood of any organization, is collected through box and basket manufacturers who put aside a certain amount of each sale for the association.

The enduring success of OFVGA is testimony to the quality of leadership of our friends to the North. In the final analysis, it is the minds of

men which shape events and the 100th anniversary is testimony to those Ontario growers who put forth their time

### VEGETABLE CONVENTION



"Pop, what prehistoric mammal could have made that track?"

and their efforts to create and make their association a success.

May the next century be as successful as the first.

## Opportunities

WITH the emphasis these days on scientific learning for the purpose of building better space ships or missiles or rockets, young people on the farm may be inclined when planning their future to overlook the tremendous opportunities offered in the field of agriculture.

That such opportunities exist in many allied fields was made clear to the young people who took part in the recent annual convention of National Junior Vegetable Growers Association.

Leaders in both agriculture and industry told the boys and girls that

### QUOTE-OF-THE-MONTH

If you lose the crop to the weather, you may blame the weather.

If you lose the crop to the market, you must blame yourself.

—W. E. Black, General Manager, Florida Tomato Committee

there is a shortage of trained young people entering the horticultural field. "The complexity of agriculture in the future will require more highly trained people than we have had in the past," pointed out Dr. Clay Lyle, dean and director, division of agriculture, Mississippi State University.

Opportunities in the food distribution industry—the largest industry in this country—are unlimited, the junior growers learned, and thousands of jobs also go wanting for lack of trained people in the food processing industry.

Young people entering into college would do well to heed the advice of Howard A. Weibel, sales manager, garden chemicals, E. I. du Pont de Nemours and Company, Inc., that a horticultural background is an asset in the whole range of industry allied to agriculture. It is the key that opens the door to vast opportunities.

### Coming Next Month

- Peat Pots for Peppy Plants
- Revolution in Row Crop Spraying
- The Versatile Row Crop Sled
- Black Plastic IS a Wonder Mulch

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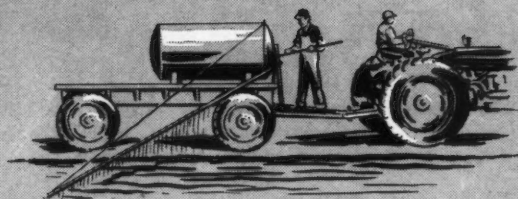
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Want to eliminate hand weeding? Want to improve your rate of seeding emergence? Want to raise healthy young plants that thrive in fumigated soil; plants that are free from disease, nematode or insect attack? Want to treat all your seed beds at one time? Then you want Bedrench.

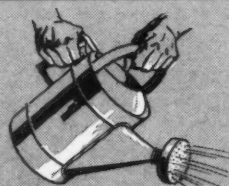
Bedrench is an exclusive Niagara formula. Use it with profit for tomatoes, peppers, egg plant, cauliflower, cabbage, broccoli, celery, strawberries and other crops started in seed beds. Bedrench also gives flower and nursery seedlings a quick, healthy start. You just mix it with water and drench into your prepared soil.

Bedrench is easy to apply (see diagrams). You can do it any time—up to within 10 to 12 days before planting. See your Niagara dealer or write for literature.

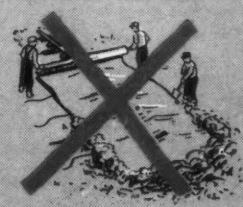
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SMALL BED APPLICATION



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